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# cool stuff

**Here's our annual look at the best new gadgets,** from serious PDAs to exotic gizmos for techies of all ages. **Page 23**

# Data Center Gains May Imperil Jobs

## Gartner says half of IT operations positions could vanish in 20 years; users aren't so sure

BY PATRICK THIBODEAU
LAS VEGAS

In an eyebrow-raising forecast that was met with a mix of skepticism and nonchalance by some IT managers, Gartner Inc. analysts last week predicted that as many as 50% of the IT operations jobs in the U.S. could disappear over the next two decades because of improvements in data center management technologies.

Gartner analyst Donna Scott said at the consulting firm's annual data center conference here that IT workers face a situation similar to the one that the manufacturing industry has experienced over the past several decades. Increased standardization of IT systems, applications and processes will lead to productivity improvements and a major shift in the skills that are needed, according to Scott.

"There will be more room to automate, and that means there will be reduced labor cost," she said.

IT operations, which encompass functions such as systems administration, inci-

*Data Center, page 16*

# Users See Slow Progress On Microsoft-Sun Alliance

## Vendors provide first update on joint efforts

BY CAROL SLIWA

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Executives from the one-time bitter rivals cited collaborative efforts in areas such as Web services standards, identity management, storage and the optimization of Windows for Sun hardware (see chart, page 53). But much of the work is ongoing, and Microsoft and Sun didn't provide details about any major technology pronouncements that may be forthcoming.

"My expectation on them producing deliverables is very low," said Emanuel Joseph,

*Collaboration, page 53*

# Lack of Tests Could Block Virtualization

BY PATRICK THIBODEAU
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That issue could put relationships between users and software vendors to the test if vendors are reluctant to troubleshoot their applications on servers running virtualization software, according to Gartner analysts and IT managers who were at the conference.

Tony Fernandes, vice

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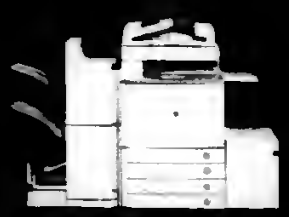

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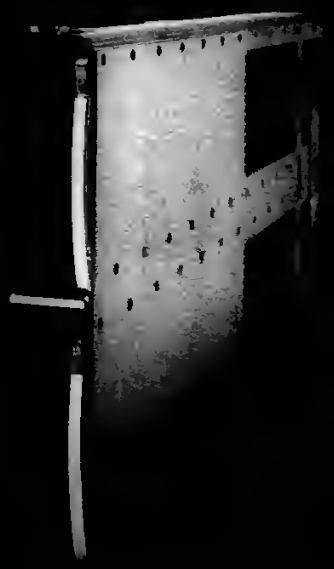

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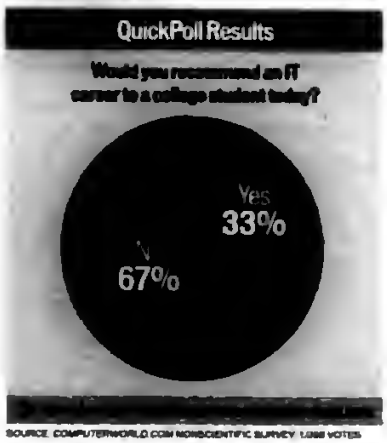


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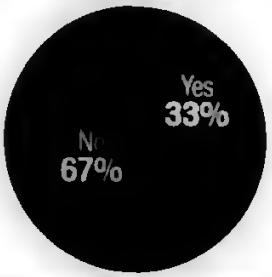


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## AT DEADLINE

### Borland Replaces IBM Tools at EDS

**Electronic Data Systems Corp. has opted to replace its IBM Rational application life-cycle management tools with Borland Software Corp. tools, said Borland CEO Dale Fuller. Fuller described the deal in a conference call as "a multiyear, multimillion-dollar relationship." EDS late last week confirmed that it buys software from Borland but declined to comment on the deal.**

### Microsoft Adds New NT Support Plan

**Microsoft Corp. announced last week that on Jan. 1 it will begin offering a fee-based custom support program for Windows NT 4.0 Server. The extended support period for the server product is due to expire at month's end. The new program will run through Dec. 31, 2006. Microsoft also plans to offer two years of custom fee-based support for Exchange Server 5.5 after its extended support period ends on Dec. 31, 2005.**

### Opsware Buys Rendition for $33M

**Opsware Inc. last week agreed to buy privately held Rendition Networks, a maker of network device automation technology. Opsware plans to integrate the Rendition products with its line of IT automation and utility computing software. Once the sale is final, the Rendition R&D operation will remain in Redmond, Wash.**

### Dell Wins $700M Pact With Philips

**Dell Inc. last week was awarded a five-year, $700 million contract to provide hardware and managed desktop services to Dutch electronics giant Philips Electronics NV. The contract calls for Dell to manage desktop computers, printers, office networks and applications and to provide technical assistance for 75,000 employees.**

# CA Picks SAP's Apps For Global ERP System

## Says rollout will help it fulfill settlement with DOJ, address accounting issues

BY MATT HAMBLEN

COMPUTER Associates International Inc. last week said it plans to roll out SAP AG's ERP software globally, partly to help meet the requirements of the deferred-prosecution deal CA reached with the U.S. Department of Justice in September.

For CA, the project "is both a business and IT transformation," CIO Kevin Kern said in an interview. "It's the mother of all transformations, affecting just about everything."

Kern said the mySAP ERP software will replace a mix of internal applications affecting four key business areas: core financials, business intelligence, CRM, and e-procurement and sourcing.

A CA spokeswoman said the project could cost $5 million to $10 million. A consulting team from Accenture Ltd. will assist CA on the mySAP ERP rollout, which is scheduled to be completed by the end of next year.

Kern, who joined CA in July, said the new ERP system will give executives "unprecedented levels of financial transparency" across the software vendor's operations. He noted that one of the purposes of the rollout is to help CA fulfill a significant portion of its agreement with the DOJ, which was designed to let the company avoid prosecution in connection with alleged accounting fraud by former executives in 1999 and 2000 [QuickLink 49647].

**"[The project is] the mother of all transformations, affecting just about everything."**

KEVIN KERN, CA's CIO

The DOJ claimed that CA counted some software sales outside of the fiscal quarter in which they should have been booked in order to boost its short-term financial results. A unified ERP system should help make the company's accounting procedures more efficient and more visible to auditors, according to analysts.

### Too Many Systems

"I'm kind of shocked that CA hasn't installed a big ERP system before now," said Mark Ehr, an analyst at Enterprise Management Associates Inc. in Boulder, Colo. "As a technology company, they've suffered from the 'invented here' syndrome and have in place a mishmash of internal ERP systems, which was probably part of the cause of the accounting problem."

"Of course the new system will improve financials and tighten that up," Kern said, adding that it will also help CA's sales teams to function "much more efficiently and effectively." As part of the agreement with the DOJ, CA said that it would implement an ERP system by the end of 2005. Kern said the project is "well under way," with 80 employees working on it full time.

In one of Kern's earlier jobs, he was vice president of strategic development at SAP America Inc., SAP's U.S. subsidiary. He wouldn't name the companies that competed with SAP for the ERP project. But he said CA evaluated several prominent vendors and narrowed the list to those that could handle a global rollout before settling on SAP.

CA doesn't use any SAP software now, Kern said. The company has installed a few packaged applications from outside vendors, including PeopleSoft Inc.'s human resources software and a marketing system from Aprimo Inc. Kern said those products will continue to be used for the time being while CA focuses on replacing applications such as Masterpiece, an accounting package that it once owned. CA sold Masterpiece to SSA Global Technologies Inc. in 2002.

Accenture didn't help with the selection of mySAP ERP but is providing a team of 20 workers to assist with the implementation, said Stefan Kampe, a partner at the IT services firm. **51189**

*Stacy Cowley of the IDG News Service contributed to this story.*

### ADDITIONAL COVERAGE

**In this issue:** John Swainson, CA's CEO-elect, says the company is overcoming its image problems with users. **Page 16**

**Online:** Visit our Web site for more stories about CA.

**QuickLink a1640**
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## CA Looks to Ease Mainframe Management Burden

**COMPUTER ASSOCIATES** today will release three upgraded Unicenter products that integrate different performance management tools used on mainframes and are designed to make it easier for users to jointly manage mainframes and other systems.

"The mainframe platform presents unique problems, and it is complex, so our strategy is to modernize and simplify the process," said David Hodgson, senior vice president of mainframe systems product development at CA.

The upgrades are the first in a series of mainframe-related announcements CA plans to make over the next few months, Hodgson said. Mainframe tools "are really CA's historical strength, and we probably neglected them from a development point of view over the last couple of years," he said.

The upgraded products include Release 11 of Unicenter NetMaster, which supports TCP/IP and SNA networks connected to mainframes and includes new autonomic capabilities for finding network abnormalities. CA is also adding support for IBM's Unix System Services technology to its event management and automation tool for mainframes running z/OS.

In addition, CA is rolling out Release 11 of Unicenter CA-Sysview Realtime Performance Management, which is designed to help IT workers find the causes of reduced z/OS performance. The new version provides improved management and monitoring of IBM's WebSphere, CA said.

Patrick Barrez, an information systems officer at Fortis NV in Brussels, has beta-tested two of the new products. Barrez said there aren't that many new features, although he noted that CA appears to have given the products a common user interface and made it easier to install and configure them. He said he expects a bigger step forward with Release 12 upgrades that are due next year.

*– Matt Hamblen*

# IM Spread Causing Management Headaches

## Financial services firms struggle to comply with regulations, appease users

BY LUCAS MEARIAN

The spread of instant messaging in the financial services industry is causing compliance and technology challenges for IT managers who must not only monitor and archive electronic communications but also root out and shut down unauthorized IM services.

Many IT units are having difficulty managing a plethora of IM systems installed without their knowledge that are used for both personal and important business communications. And user objections to IT's efforts to rein them in are another factor to consider.

For example, Thomas Weisel Partners LLC in San Francisco tried to shut down the use of America Online Inc.'s Instant Messenger, Microsoft Corp.'s MSN Messenger and Yahoo Inc.'a Yahoo Messenger after the Sept. 11, 2001, terrorist attacks. However, user pushback forced the company to adopt monitoring software instead.

"It comes down to some of our institutional customers who required IM as the method to communicate with them," said Beth Cannon, former chief technology officer and now chief security officer at the institutional brokerage.

Thomas Weisel installed IM Auditor from FaceTime Communications Inc. in Foster City, Calif. The program runs oo an internal server and monitors IM traffic, flagging any banned words or phrases while archiving all messages.

More vendors of all sizes, such as Stellar Technologies Inc., which last week unveiled the GEM content-blocking tool, are scrambling to build robust tools to monitor IM for financial firms, which must meet new government regulations requiring that electronic conversations be monitored and recorded.

Two years ago, IM monitoring was almost nonexistent in financial firms. Now it's a key IT function of most banks and brokerage houses on Wall Street, according to research firm TowerGroup in Needham, Mass.

"If they've got IM, they're logging. I can't think of a situation when I've gone into a bank and they're not logging," said Jeremy Condie, senior vice president in charge of business strategy at Thomson Financial LLC in New York.

Thomson, a provider of financial information to banks and money management firms, offers IM management services to clients based on a monitoring tool from IMlogic Inc. in Waltham, Mass.

Most IM monitoring products are gateway devices that sit on the network and monitor all incoming and outgoing messages. Some contain policy engines that search for keywords and alert managers to unacceptable conversations.

### Establishing Policies

Marcelo Sciurano, MIS director at brokerage firm Libra Securities LLC in Caledonia, N.Y., said his firm chose an IM monitoring and archiving service from Stellar based on cost and maintenance features. Each quarter, Stellar sends CDs to Libra cootaining all IM traffic data for that period. Libra's security officer then performs keyword and phrase searches of the traffic.

"If we didn't have to deal with it, we'd be happier," Sciurano said. "But the SEC and [National Association of Securities Dealers] require it."

Many small banks and brokerages and even some large ones have yet to establish policies for internal IM use, despite the difficulties firms face in managing IM, said Sophie Louvel, an analyst at Financial Insights in Framingham, Mass.

Efforts to institute a standard enterprise-class IM product, such as IBM's Lotus Sametime, Microsoft's .Net Messenger and Jabber Inc.'s Messenger, rarely work because the more popular systems are used to communicate with customers.

"I've spoken to bank and IT managers, where they found across a global firm 10 to 20 IM applications lo different guises. They've spent a lot of time whittling that down to a handful," Thomson'a Condie said. "Each pocket in a bank puts their arms up and says, 'Our community is using this, otherwise we're out of touch with our client base.' "

51213

### IM Growth

IM market revenue in the U.S. is expected to grow:

2004: **$158.3M**
2008: **$424.3M**

Enterprise IM per-user licenses are expected to leap:

Today: **10 million**
Next three years: **80 million**

SOURCE: FINANCIAL INSIGHTS, FRAMINGHAM, MASS.

# E-voting Woes Force New Election in N.C. County

## Touch-screen errors led to loss of 4,400 ballots

BY HEATHER HAVENSTEIN

Voters in one North Carolina county can return to the polls next month to recast ballots that were lost due to a malfunctioning e-voting machine in the November election.

The state's Board of Elections voted last week to allow about 4,400 Carteret County residents whose votes were lost — along with 19,600 who didn't go to the polls — to cast ballots Jan. 11 for the state agriculture commissioner.

That was the only state or local race close enough for the 4,400 votes to make a difference, said Robert Cordle, one of five members of the board. In that race, challenger Steve Troxler has a 2,300-vote lead over incumbent Britt Cobb. The Jan. 11 votes will be added to the November result.

The votes were lost because the touch-screen system could store only 3,000 votes that day, far fewer than the 10,000 the machines should be able to handle, according to the manufacturer, UniLect Corp. in Dublin, Calif.

Poll workers didn't immediately see that the machine had begun displaying a notice that said it couldn't accept any more votes, Cordle said. The machines don't produce paper copies of the ballots. "As a compromise, we agreed to allow those whose vote was not counted last time to vote, [as well as] anybody who didn't vote last time," Cordle said. "It's a very unusual ruling, and each [candidate] has 10 days to appeal it in court. It may get changed if they do."

The January electioo will cost the county $20,000, Cordle said, adding that it will use the same machines used in November but will allow only 3,000 votes per machine.

The state has set up a legislative commission to study e-voting, and election board officials are looking into requiring the use of machines that produce a paper audit trail, Cordle added.

Will Doherty, executive director of the Verified Voting Foundation Inc. advocacy group, said the problem in Carteret County was the most serious e-voting problem nationwide because of the clear evidence of lost votes.

"At a bare minimum, you have to give people whose votes were lost a chance to vote," Doherty said. "That is the tip of the iceberg. If Carteret County is going to continue to use electronic voting machines, they should immediately provide a voter-verified paper ballot on the voting machioes they use."

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Doherty's organization teamed with the Electronic Frontier Foundation to send letters to election officials in eight counties nationwide where voters reported incidents problematic enough to warrant "further investigation, if not full audits, recounts or redos of the election," he said. He hasn't received responses from those counties, which include Broward and Palm Beach in Florida, Mahoning and Franklin in Ohio, Mercer and Philadelphia in Pennsylvania, Harris in Texas and Bernalillo in New Mexico.

51161

# IM Spread Causing Management Headaches

## Financial services firms struggle to comply with regulations, appease users

BY LUCAS MEARIAN

The spread of instant messaging in the financial services industry is causing compliance and technology challenges for IT managers who must not only monitor and archive electronic communications but also root out and shut down unauthorized IM services.

Many IT units are having difficulty managing a plethora of IM systems installed without their knowledge that are used for both persunal and important business communications. And user objectioos to IT's efforts to rein them in are another factor to consider.

For example, Thomas Weisel Partners LLC in San Francisco tried to shut down the use of America Online Inc.'s Instant Messenger, Microsoft Corp.'s MSN Messenger and Yahoo Inc.'s Yahoo Messenger after the Sept. 11, 2001, terrorist attacks. However, user pushhack forced the company to adopt monitnring software instead.

"It comes down tn some of our institutional customers who required IM as the method to communicate with them," said Beth Cannon, former chief technology officer and now chief security officer at the institutional brokerage.

Thumas Weisel installed IM Auditor from FaceTime Communications Inc. in Foster City, Calif. The program runs on an internal server and monitors IM traffic, flagging any banned words or phrases while archiving all messages.

More vendors of all sizes, such as Stellar Technologies Inc., which last week unveiled the GEM content-blocking tool, are scrambling to huild robust tools to monitor IM for financial firms, which must meet new government regulations requiring that electronic conversations be monitored and recorded.

Two years ago, IM monitoring was almost nonexistent in financial firms. Now it's a key IT function of most banks and hrokerage houses on Wall Street, according to research firm TowerGroup in Needham, Mass.

"If they've got IM, they're logging. I can't think of a situation when I've gone into a hank and they're not logging," said Jeremy Condie, senior vice president in charge of business strategy at Thomson Financial LLC in New York.

Thomson, a provider of financial information to banks and money management firms, offers IM management services to clients based on a monitoring tool from IMlogic Inc. in Waltham, Mass.

Most IM monitoring products are gateway devices that sit on the network and monitor all incoming and outgoing messages. Some contain policy engines that search for keywords and alert managers to unacceptable conversations.

### Establishing Policies

Marcelo Seturano, MIS director at brokerage firm Libra Securities LLC in Caledonia, N.Y., said his firm chose an IM monitoring and archiving service from Stellar based on cost and maintenance features. Each quarter, Stellar sends CDs to Libra cootaining all IM traffic data for that period. Libra's security officer then performs keyword and phrase searches of the traffic.

"If we didn't have to deal witb it, we'd be happier," Seturano said. "But tbe SEC and [National Associatioo of Securities Dealers] require it."

Many small banks and brokerages and even some large ones have yet to establish policies for internal IM use, despite the difficulties firms face io managing IM, said Sophie Louvel, an analyst at Financial Insights in Framingham, Mass.

Efforts to institute a standard enterprise-class IM product, such as IBM's Lotus Sametime, Microsoft's .Net Messenger and Jabber Inc.'s Messenger, rarely work because the more popular systems are used to communicate with customers.

"I've spoken to bank and IT managers, where they found across a global firm 10 to 20 IM applications in different guises. They've spent a lot of time whittling that down to a handful," Thomson's Condie said. "Each pocket in a bank puts their arms up and says, 'Our community is using this, otherwise we're out of touch with our client base.' "

51213

MOST POPULAR

**IM Archiving/ Monitoring Apps**

IMlogic Inc.
- IM Ma...

Akonix Systems Inc.
- Akonix E...

DYS Analytics Inc.
- Co...

FaceTime Communications
- IM A...

IM-Age Software Inc.
- IM Policy Manager

## IM Growth

IM market revenue in the U.S. is expected to grow:

2004: **$158.3M**
2008: **$424.3M**

Enterprise IM per-user licenses are expected to leap:

Today: **10 million**
Next three years: **80 million**

SOURCE: FINANCIAL INSIGHTS, FRAMINGHAM, MASS.

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51161

# BRIEFS

## IBM Linux Servers To Support Sybase

**IBM has agreed to support and jointly market Sybase Inc.'s Adaptive Server Enterprise database software on its eServer OpenPower Linux servers by early next year. The move extends IBM's support for one of its DB2 software rivals. The agreement could help IBM find new customers in the financial services industry, where Sybase has a strong presence.**

## EDS Wins $480M Outsourcing Pact

**The provincial government of British Columbia awarded a $480 million outsourcing contract to Electronic Data Systems Corp. to develop and implement business processes and IT systems. The 10-year deal calls for the EDS Advanced Solutions Inc. unit to coordinate more than 40 revenue systems.**

## Hackers Mock SCO's Linux Claims

**Hackers compromised The SCO Group Inc.'s Web site twice last week, posting messages that mocked the company's claims to own parts of Linux. SCO, a frequent target of online attacks since it filed a lawsuit against IBM last year, acknowledged that the site "experienced two intrusions by a malicious hacker." SCO said it quickly restored the hacked pages.**

## Microsoft Probes Windows Flaw

**Microsoft Corp. last week said it's investigating a security flaw in Windows Server that could allow an attacker to gain control over systems running the software. The flaw lies in the Windows Internet Name Service, a network infrastructure component. Microsoft said it plans to offer a patch to protect against this flaw as part of its monthly update cycle.**

# ON THE MARK

**HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL**

MATTHEW FAULKNER

## Isis Protects Networks From Attacks That . . .

**. . . start inside firewalls.** And that's most of them, according to the San Francisco-based Computer Security Institute, which estimates that 60% of attacks against networks come from machines within corporate firewalls. As IT managers know all too well, this onslaught of worms and viruses emanates from clueless employees who insist on opening .exe files promising wealth, health or a stealth look at someone in their birthday suit. Because it's still illegal and probably just plain wrong to shoot those workers, you might instead consider adopting the upcoming Isis security technology from NitroSecurity LLC in Portsmouth, N.H. Isis combines NitroSecurity IPS 4.4, an upgrade that will be available later this month, with the brand-new NitroSecurity ESE, scheduled for release in the first quarter of 2005. The upgrade of NitroSecurity's intrusion-prevention system adds reporting features and drops the IP address from the appliance so it can't be found and hacked on your network. But the most important new feature, says Bill Clark, NitroSecurity's marketing vice president, is the integration of IPS 4.4 and NitroSecurity ESE, an enterprise security engine that maintains the details of how all computing devices are connected to a network. Together with IPS 4.4, NitroSecurity ESE can quickly locate a device that's being used in an attack and shut off its access to the network by disabling its Ethernet link. That's harder than it sounds, Clark says. External worms arrive via a very small number of WAN ports that can be shut off quickly. But with tens or even hundreds of thousands of internal switched ports to sort through, finding offending desktop systems can take too long. With the god-like powers of Isis, you can banisb bad machines faster than you can say "Ra." Or "Rah!" since you'll probably be in a good mood. Pricing has yet to be finalized.

### Compliance needs complicate control . . .

**. . . of end-user identity and access management procedures.** King Moore, CEO of New York-based Secured Services Inc., argues that compliance means not only showing auditors that you know who did what where and when, but being able to prove it in court. That's why its Identiprise 6.0 identity and access management system seals ID-related event logs in a court-admissible, tamperproof file. Identiprise creates a virtual directory that other network-based directories connect to, bridging the myriad of log-on, password and ID-challenge systems that applications use. It also gives single-sign-on access to end users. The new release is due to ship later this mooth. Pricing starts as low as $20 per seat.

### Stop writing business logic in . . .

**. . . IT departments, and make your company's business analysts do it instead.** That's the strategy behind the suite of tools offered by RulesPower Inc. in Burlington, Mass. "Software errors don't stem from coding, but from the transformation of business-requirements-gathering into code," claims RulesPower founder Steven Minsky. He says it's important to get code creation "out of the IT process" and put it in the hands of business analysts. Training them to write J2EE code seemed like the wrong approach, so RulesPower opted to make the creation of business logic, well, logical and drop-dead simple. The company says RulesPower Process Logic 2.0, whicb is scheduled to ship in next year's first quarter, makes it even easier to build if-then scenarios than the pull-down menus and drag-and-drop features in the existing release do. The upgrade includes templates that will let users pick a specific business process, choose a rule or set of rules, click a button and — *voilà* — have the system churn out compiled J2EE code that can be applied to an application. Pricing starts at $6,000.

### Service provider for software developers . . .

**. . . to add online file sharing to its programming tool set.** Applying the applicatioo service provider business model to a set of development tools, Elementool Inc. in New York next quarter will launch its File Sharing service for corporate coders. Programmers can use the service, which offers check-out and check-in tracking features, as a source code control repository. The ASP already offers bug tracking and time tracking services, each of which starts at just under $40 per month for an unlimited number of users working on a single project. Elementool CEO Yaron Sinai says the services are ideal for working with outsourcers or for quick-and-dirty projects that don't warrant pricey product investments. **51169**

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Viktor Portmann

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# Business Must Be a CIO's No. 1 Priority

## Communicating with business leaders, delivering results are key to survival

BY THOMAS HOFFMAN
NEW YORK

CIOs MUST demonstrate a strong command of business requirements and the ability to effectively communicate the business benefits of IT projects, and they must deliver projects as promised to gain the trust and respect of senior management, declared IT executives attending a CIO conference here last week.

By meeting these criteria, effective CIOs are keeping their jobs for longer periods of time at some companies. "CIOs are sustaining [their tenure] longer than in the past since they have become more business-focused," said Mark Popolano, vice presideot and CIO at American International Group Inc. in New York. Popolano, AIG's CIO for the past seven years, was a speaker at the Forbes CIO Forum.

"We have to be business people first, strategists second and technologists third," said Ron Ponder, executive vice president of informatioo services and CIO at WellPoint Health Networks Inc. in Thousand Oaks, Calif.

Ponder, who reports to WellPoint President and CEO Larry C. Glasscock, said he oever brings an IT spending proposal to Glasscock or WellPoint's board without first gaining support from at least one busioess unit leader. He also attends eacb of the company's moothly business unit staff meetings to work on better aligning IT with the business.

The growing dependency on technology at businesses can be a double-edged sword for a CIO, according to some officials. For instance, if one of Intel Corp.'s factories stops running because of an IT-related snafu, "you don't come into the [boardroom] to talk strategy; you come into the room to get beateo up," said Stacy Smith, vice president and CIO for the information services and technology organization at Intel.

Still, Smith noted that an upside to being a CIO at a high-teeb company such as Intel is that the CEO has a strong appreciatioo for the value of technology. After former *Harvard Business Review* editor Nicbolas G. Carr's controversial 2003 article, "IT Doeso't Matter" appeared, Intel's CEO disputed the premise in public forums. As a result, Smith was able to "leverage" the CEO's predilectioo for the value of IT during Intel's recent budget discussions, he said.

"You've got to be able to achieve stable operations... and deliver on what you promise."

PATRICIA CUSICK, vice president and CIO, Xerox Corp.

Demonstrating the value of the IT organization to the business is also a crucial element in cementing CIO-CEO relationships. At Xerox Corp., the IT department has beeo responsible for $600 million, or one-third, of the $1.8 billioo in cost-cutting that the Stamford, Conn.-based company has achieved over the past four years, said Patricia Cusick, vice president and CIO.

"You've got to be able to achieve stable operations, communicate in business language and deliver on what you promise," said Cusick, who has been Xerox's CIO for five years.

Sometimes the CIO-CEO relationship is strengthened by the culture of a company. "I don't have to sell IT projects too often to the CEO and other members of senior management, since we're a close-knit group that does strategic decision-making together," said Bill Kwelty, CIO at Automotive Resources International, a fleet services company in Mt. Laurel, N.J. 51199

# New Tools Show How Systems Affect Business Processes

BY MATT HAMBLEN

Two software vendors today are unveiling packages designed to improve IT services management capabilities in corporations by giving officials greater insight into the relationships between parts of an IT system tied to a business process.

Relicore Inc., a relatively small vendor in Burlington, Mass., will bring out Relicore Clarity Version 4.0. Separately, BMC Software Inc. in Houstoo will unveil Topology Discovery. Last week, FrontRange Solutions Inc. in Pleasanton, Calif., released IT Service Management, a product built on the Microsoft .Net platform and primarily intended for midsize companies.

All three products aim to meet the needs of companies that have a strong desire to improve oversight of internal processes by following guidelines from the Information Technology Infrastructure Library, said Mark Ehr, an analyst at Enterprise Management Associates Inc. in Boulder, Colo. The ITIL philosopby calls, in part, for companies to use a centralized configuration management database to store a huge assortment of information about settings on network elements, servers and applications. Such a database would let IT managers see the effect on the system if part of it fails, gains traffic or is reconfigured.

### Similar Offerings

Ehr said Relicore, a 4-year-old company with 12 large customers, "is one of the best secrets around." He predicted that its software will be imitated by large management veodors — if the company isn't bought out. He noted that BMC's new Topology Discovery is "very similar" to Relicore's Clarity, but BMC built its application using technology gained by acquiring Marimba Inc. and Remedy Corp.

Kurt Hansel, senior technical officer at J.P. Morgan Chase & Co. in New York, said the bank will move to Relicore Clarity 4.0 at the beginning of 2005. J.P. Morgan has used Version 3.6 for more than a year on 50 servers that run an applicatioo called Cash oo Line. More than 3,000 financial traders and cash managers use the application.

Clarity 4.0 will work with IBM Tivoli software at J.P. Morgan to give greater insight into system updates, such as a change to a configuration file, Hansel said.

Cberi Tipton, computer systems technician for the city government in Olympia, Wash., said the munieipality purchased IT Service Management from FrontRange and will take it live in January. The new software will help the city be more proactive in handling system problems, she said.

With the old system, Tiptoo said, "we'd have a problem or incident and nobody knew what to do with it, since the root problem was hard to find." FrontRange will help manage systems used by 650 government employees in 24 buildings, she added.

Steve Baleotine, a BMC product marketing manager, said Topology Discovery is the third piece of the Change and Configuratioo Management product group. The software builds and maintains a network map with application infrastructure information to provide modeling for IT services.

"Understanding the relationships between parts of the infrastructure is the wave of the future," explained Jasmine Noel, analyst at Ptak, Noel & Associates in New York. "It's more than just a map of a busioess, but a picture of how a business service is using the infrastructure at this minute." 51216

NEW PRODUCTS

### Service Management Tools

**Relicore Clarity 4.0**, shipping now, starts at $200,000. Supports IBM AIX and SUSE Linux. Offers global mapping of thousands of servers and applications, and integrates with third-party management systems.

**BMC Software Topology Discovery** is available now; pricing not disclosed. Builds and maintains network maps and application infrastructure dependency maps used by BMC's Service Impact Manager to allow faster responses to problems and improved service levels.

**FrontRange Solutions IT Service Management** is available now; pricing not disclosed. Includes seven modules for incident management, problem management, change management, release management, availability management, configuration management and service-level management.

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## BRIEFS

### Cingular Set to Deploy 3G Network

**Cingular Wireless LLC last week outlined plans to begin deploying a third-generation network with average data speeds of 400K to 700Kbit/sec. and bursts to several megabits per second on capable devices. Cingular said the recent acquisition of AT&T Wireless Services Inc. provided the company with the spectrum necessary to start building the 3G networks over the next year.**

### Apache Group May Hire Full-Time Staff

**The Apache Software Foundation may soon need to hire full-time, paid staffers to keep up with an increasing load of legal work and fundraising tasks, said Brian Behlendorf, a co-founder and director of the Forest Hill, Md.-based group. A board of nine volunteer members currently runs the not-for-profit foundation, which was set up in 1999. Roughly 1,200 developers are working on about 20 Apache projects.**

### AOL Adds More IE Support to Browser

**America Online Inc. has brought out a preview version of a Netscape Firefox-based Web browser that includes support for Microsoft Corp.'s ubiquitous Internet Explorer browser engine. The new browser lets users easily switch to IE to show sites that don't display well in Netscape's standard Firefox-based configuration.**

### IBM Signs Pacts, Buys Danish Firms

**IBM reached agreements with two Danish companies on outsourcing deals that together are worth more than $1 billion. IBM signed a five-year agreement with shipping container giant AP Moller-Maersk AS and a 10-year pact with Danske Bank AS. IBM also said it acquired two IT services firms related to the Danish companies, Maersk Data AS and DMData AS.**

# HP Revives Plan for Tool to Slow Viruses

## 'Throttler' meets a need, say analysts, but client tool may be more effective

BY JAIKUMAR VIJAYAN

HEWLETT-PACKARD Co.'s planned launch of so-called virus-throttler software early next year addresses a growing need for tools that can help slow the spread of viruses on corporate networks, IT security analysts said last week. But the effectiveness of HP's approach remains unproven in real-world installations, they cautioned.

HP, which has been testing the virus-throttler software internally since October, said it will make the technology available to users in the form of network drivers for its ProLiant servers and ProCurve switches. The company hasn't named the technology yet, although Virus Throttler is a possibility.

The software looks for variations in server and network behavior that might signal the presence of a virus or other malicious code. Once suspicious activity is detected, the virus throttler automatically slows it down by limiting the number of outbound connections that an infected system can make, HP said. It claimed that the technology can help limit the network congestion that typically results when infected machines try to propagate viruses to other systems.

"This is not about killing viruses. It's about caging and suppressing them," said Tony Redmond, vice president and chief technology officer at the vendor's HP Services business unit and IT security program office.

"What it does is allow administrators to get a handle on fast-moving threats," said Scott Crawford, an analyst at Enterprise Management Associates Inc. in Boulder, Colo. "Being able to slow down a virus increases the ability to get an effective response and patch-deployment process in place."

The tool doesn't replace existing antivirus technologies, Redmond said. "What we're doing is catching anything that gets past a firewall or antivirus software," he explained.

To be truly effective, the technology needs to become available at the client level, said John Pescatore, an analyst at Gartner Inc. The volume of traffic on a corporate e-mail server or a network switch, especially in big companies, makes it harder to identify malicious activity than it is when monitoring individual PCs, Pescatore said.

HP first announced plans for the virus throttler last February. But in August, the company said it was indefinitely shelving the software because of compatibility problems with Windows. Since then, the drivers have undergone thorough Windows certification testing and are now in the process of being qualified for commercial release by HP, according to Redmond.

The virus throttler was one of several IT security products and services that HP announced last week. Another new offering is the Security Incident Management Program, under which HP will offer consulting on security issues and provide a vulnerability assessment service called Active Countermeasures to help users identify and fix weak spots in their networks. **51222**

### Other HP Security Additions

New and upgraded products and online security tools, including vulnerability and patch management software for small-business models of ProLiant servers

OpenView Select Federation identity management software

# Cisco, Others Expand 10 Gigabit Ethernet Switches

BY MATT HAMBLEN

Cisco Systems Inc. last week added two supervisor engines with 10 Gigabit Ethernet ports to its midrange and high-end switch lines, and Alcatel and Hewlett-Packard Co. both plan to announce new switches that support the technology today.

The rollouts by the three vendors are further evidence that 10 Gigabit Ethernet core switching is poised to move beyond its existing uses in research centers and universities and expand into mainstream corporate applications, said Zeus Kerravala, an analyst at The Yankee Group in Boston.

"Customers want Gigabit Ethernet to the desktop, which means you need 10 Gig at the core for uplinks and server connectivity," he said.

Clarian Health Partners Inc., a group of three hospitals in Indianapolis, has already installed about 15 of Cisco's Catalyst 6500 core switches with 10 Gigabit Ethernet capability. Now Clarian plans to order more than 200 Catalyst 4500 midrange switches for use in wiring closets on every floor in its 17 buildings, which are being connected by a new OC-192 network, said Tom Jones, a technology architect at the health care provider.

Jones said some of the switches will be used to support high-bandwidth imaging applications in Clarian's cardiology and radiology departments and will include the new Catalyst 4500 Supervisor Engine V-10GE, which supports 10 Gigabit Ethernet transmission rates.

### Necessary Investment

The Cisco products will cost Clarian "many millions" of dollars, Jones said. But the network and a new patient-care system are "the heart of the business," he added. "We had to make this network investment as well as [investments in] servers and applications to be successful."

The new supervisor engine for the Catalyst 4500 is available now and supports two 10 Gigabit Ethernet ports at a cost of $19,995, Cisco said. The Catalyst 6500 line is also being expanded with an engine that has the same number of ports and sells for $20,000. It's scheduled to ship in February.

All together, Cisco announced more than 20 higher-capacity switching products for the Catalyst family, as well as Power Over Ethernet capabilities for several existing switches. In addition, the company introduced its first Gigabit Ethernet-capable IP phone, priced at $845.

HP said it plans to announce the ProCurve Switch 6400cl, a series of six-port stackable switches that support 10 Gigabit Ethernet and are scheduled to ship in the spring at a starting price of $5,429.

Alcatel will introduce the OmniSwitch 6800 family of Gigabit Ethernet switches with 10 Gigabit Ethernet uplinks. Pricing starts at $4,495 for the switches, which are available now. A two-port 10 Gigabit Ethernet module is due in February, starting at $4,995. **51215**

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The software looks for variations in server and network behavior that might signal the presence of a virus or other malicious code. Once suspicious activity is detected, the virus throttler automatically slows it down by limiting the number of outbound connections that an infected system can make, HP said. It claimed that the technology can help limit the network congestion that typically results when infected machines try to propagate viruses to other systems.

"This is not about killing viruses. It's about caging and suppressing them," said Tony Redmond, vice president and chief technology officer at the vendor's HP Services business unit and IT security program office.

"What it does is allow administrators to get a handle on fast-moving threats," said Scott Crawford, an analyst at Enterprise Management Associates Inc. in Boulder, Colo. "Being able to slow down a virus increases the ability to get an effective response and patch-deployment process in place."

The tool doesn't replace existing antivirus technologies, Redmond said. "What we're doing is catching anything that gets past a firewall or antivirus software," he explained.

To be truly effective, the technology needs to become available at the client level, said John Pescatore, an analyst at Gartner Inc. The volume of traffic on a corporate e-mail server or a network switch, especially in big companies, makes it harder to identify malicious activity than it is when monitoring individual PCs, Pescatore said.

HP first announced plans for the virus throttler last February. But in August, the company said it was indefinitely shelving the software because of compatibility problems with Windows. Since then, the drivers have undergone thorough Windows certification testing and are now in the process of being qualified for commercial release by HP, according to Redmond.

The virus throttler was one of several IT security products and services that HP announced last week. Another new offering is the Security Incident Management Program, under which HP will offer consulting on security issues and provide a vulnerability assessment service called Active Countermeasures to help users identity and fix weak spots in their networks. **51222**

# Cisco, Others Expand 10 Gigabit Ethernet Switches

BY MATT HAMBLEN

Cisco Systems Inc. last week added two supervisor engines with 10 Gigabit Ethernet ports to its midrange and high-end switch lines, and Alcatel and Hewlett-Packard Co. both plan to announce new switches that support the technology today.

The rollouts by the three vendors are further evidence that 10 Gigabit Ethernet core switching is poised to move beyond its existing uses in research centers and universities and expand into mainstream corporate applications, said Zeus Kerravala, an analyst at The Yankee Group in Boston.

"Customers want Gigabit Ethernet to the desktop, which means you need 10 Gig at the core for uplinks and server connectivity," he said.

Clarian Health Partners Inc., a group of three hospitals in Indianapolis, has already installed about 15 of Cisco's Catalyst 6500 core switches with 10 Gigabit Ethernet capability. Now Clarian plans to order more than 200 Catalyst 4500 midrange switches for use in wiring closets on every floor in its 17 buildings, which are being connected by a new OC-192 network, said Tom Jones, a technology architect at the health care provider.

Jones said some of the switches will be used to support high-bandwidth imaging applications in Clarian's cardiology and radiology departments and will include the new Catalyst 4500 Supervisor Engine V-10GE, which supports 10 Gigabit Ethernet transmission rates.

### Necessary Investment

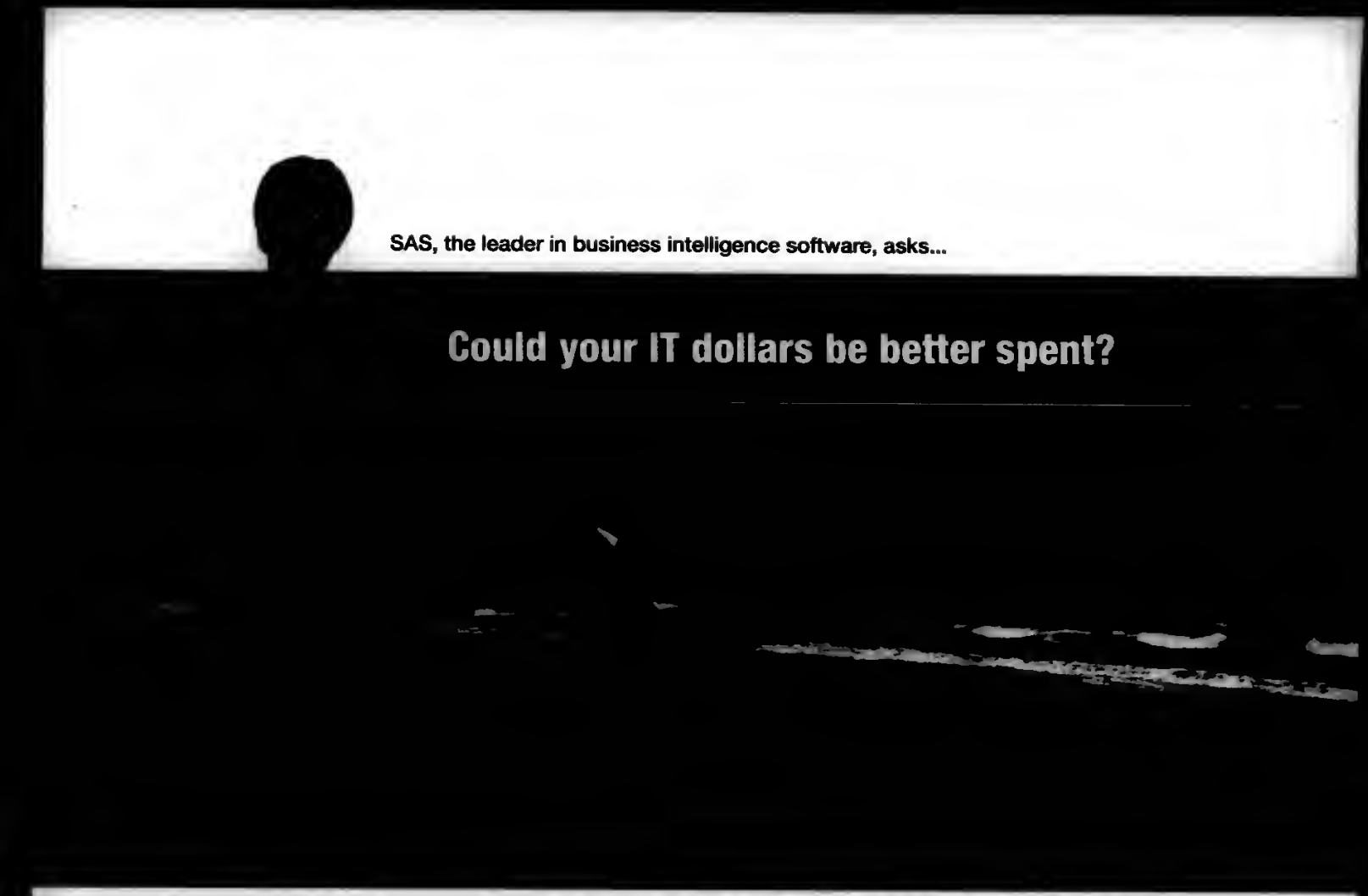
The Cisco products will cost Clarian "many millions" of dollars, Jones said. But the network and a new patient-care system are "the heart of the business," he added. "We had to make this network investment as well as [investments in] servers and applications to be successful."

The new supervisor engine for the Catalyst 4500 is available now and supports two 10 Gigabit Ethernet ports at a cost of $19,995, Cisco said. The Catalyst 6500 line is also being expanded with an engine that has the same number of ports and sells for $20,000. It's scheduled to ship in February.

All together, Cisco announced more than 20 higher-capacity switching products for the Catalyst family, as well as Power Over Ethernet capabilities for several existing switches. In addition, the company introduced its first Gigabit Ethernet-capable IP phone, priced at $845.

HP said it plans to announce the ProCurve Switch 6400cl, a series of six-port stackable switches that support 10 Gigabit Ethernet and are scheduled to ship in the spring at a starting price of $5,429.

Alcatel will introduce the OmniSwitch 6800 family of Gigabit Ethernet switches with 10 Gigabit Ethernet uplinks. Pricing starts at $4,495 for the switches, which are available now. A two-port 10 Gigabit Ethernet module is due in February, starting at $4,995. **51215**



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# GLOBAL DISPATCHES

An International IT News Digest

## Blair Urges Jail Time For ID Card Abuses

**LONDON**

U.K. PRIME MINISTER Tony Blair last week tried to quell growing concern over the security of the country's forthcoming national identity card program by threatening jail time for anyone caught tampering with the project's massive database.

The penalty for database tampering would be up to 10 years in prison, and unauthorized disclosures would carry a penalty of two years in prison, Blair said at a news conference here.

The Identity Cards Bill seeks to create by 2010 a system that supports the use of ID cards with embedded chips for storing biometric identifiers as well as personal information about U.K. residents. The data on the chips will include residents' names, addresses, fingerprints, facial scans and iris scans, all of which will also be stored in the government's central database.

Blair said the ID cards would be a powerful weapon in the U.K. government's fight against terrorism, identity fraud, illegal workers, illegal immigration and illegal use of government entitlement programs such as the National Health Service.

■ LAURA ROHDE, IDG NEWS SERVICE

## Aussie 'Green Machine' Recycles Printer Waste

**SYDNEY**

AUSTRALIANS use 18 million printer consumables per year, and most of the ink-jet and toner cartridges end up as hazardous landfill. But an Australian company has developed a recycling plant that transforms the waste into commercial products.

Close the Loop Ltd.'s (CTL) program, started as an environmental initiative in 1998, is becoming a serious, global business. Its Green Machine facility turns the plastic printer cartridges into "e-wood," a timber replacement product that can be used for fencing, garden materials, playground equipment and office furniture.

Melbourne-based CTL works with more than 3,000 end users, suppliers, government agencies and businesses, and it has set up more than 2,000 collection points for printer cartridges. Even with 38 full-time staffers, the company is working overtime, collecting 300 bags of waste per day, said Melinda Lizza, CTL's business development manager.

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## Philippine Group Seeks U.S. Outsourcing Deals

**MANILA**

A GROUP OF BUSINESSMEN in the Philippines is creating a holding company that will give financial incentives to U.S.-based Filipinos who market the country as a destination for outsourced business and IT services. The group would pay a fee — for example, 2% of the resulting contract — to Filipino-Americans who successfully refer U.S. companies to service providers in the Philippines.

The marketing and referral initiative is supported by the nonprofit Philippine Small and Medium Enterprises Development Foundation Inc. in Pasay City. Initially, the group will hire a marketing company in the U.S. and hold business networking sessions in at least eight states. **51165**

■ LAWRENCE CASIRAYA, COMPUTERWORLD PHILIPPINES

*Compiled by Mitch Betts.*

## Briefly Noted

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# Plugfest Signals Serial Devices Ready to Go

**BY LUCAS MEARIAN**

More than 100 engineers from storage vendors gathered in New Hampshire last month for a final round of interoperability testing between Serial Attached SCSI (SAS) and Serial ATA disk drives, organizers plan to announce today.

Vendors said the plugfest was the last hurdle before the shipping of bundled SAS and Serial ATA products begins in next year's first quarter.

The tests, which took place at the University of New Hampshire's InterOperability Laboratory in Durham, culminated three years of development of the SAS protocol and products that support it, according to Harry Mason, president of the SCSI Trade Association in San Francisco.

Mason said the tests found that SAS storage devices are fully compatible with Serial ATA drives and thus allow for the creation of dual-purpose disk arrays that support both ATA and SCSI technologies in the same enclosure.

Among the companies that tested products at the plugfest were Hewlett-Packard Co., Hitachi Ltd., Intel Corp., Seagate Technology LLC, Adaptec Inc., Dell Inc., EqualLogic Inc., LSI Logic Corp., Maxtor Corp. and NEC Corp.

For decades, disk drives used parallel bus interfaces in storage systems that weren't based on Fibre Channel technology. But increasing bandwidth and reliability issues put the two main parallel interface technologies — SCSI and ATA — at a performance disadvantage compared with Fibre Channel. And the lack of compatibility between the parallel bus technologies kept vendors from offering arrays that could share the higher performance characteristics of SCSI and the lower cost but higher capacity features of ATA.

"SCSI technology was certainly feeling the pinch prior to this, and I think SAS brings new life to SCSI," said Arun Taneja, an analyst at Taneja Group in Hopkinton, Mass.

### Technology Drivers

The use of tiered storage systems that offer different performance and capacity levels is being driven by new regulations, such as the Sarbanes-Oxley Act and the Health Insurance Portability and Accountability Act, that require companies to store and be able to quickly access financial and customer data.

Such requirements weren't enough to convince Laurence Whittaker, supervisor of enterprise storage management at Toronto-based retailer Hudson's Bay Co., that combining two disk types in the same chassis is a good idea. "I can see [small and medium-size businesses] having some interest in it," Whittaker said. "But I just think if you have a large business, you're going to have so many cabinets on the floor anyway, there's not a lot to be gained by having multiple disk technologies within the same frame."

David Woolf, senior R&D engineer at the UNH InterOperability Lab, said Serial ATA can nonetheless offer significant cost savings to users.

"Fibre Channel is quite expensive, and parallel SCSI is difficult to scale for speed [throughput]," Woolf said. "SAS is significantly less expensive and has a road map that shows it can be scaled speed-wise far past what parallel technology offers."

Serial ATA disk arrays, at 1 to 2 cents per megabyte, are about half as expensive as SAS devices, at 3 to 5 cents per megabyte, according to analysts. "While end users might not be interested in the nuts and bolts of it, certainly there are advantages for them," Woolf said. **51219**

### Serial Technology Offers:

- Dual ports for failover
- A 7-pin connector cable vs a 40-pin ribbon cable
- The bility to work at lower voltages
- Support for up to 128 devices per channel vs. two for ATA and 15 for SCSI

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GLOBAL FACT

of Australia's IT workers are unhappy with their jobs

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*Continued from page 1*

# Data Center

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However, several IT managers among the 1,500 or so attendees at the conference said they don't think the situation is as dire for technology workers as Scott made it seem.

"Like most of the Gartner stuff, it's sort of a Utopian state. We're certainly not there yet," said Stevan Lewis, director of enterprise planning at BMO Financial Group, a financial services firm in Scarborough, Ontario, that comprises the Bank of Montreal and its subsidiaries.

Lewis said he thinks that some operational jobs will have to shift to other areas within IT but that it will affect about 25% of data center workers, most of whom perform low-end tasks.

Gartner's forecast prompted Ken Wagner, manager of Kawasaki Motors Corp. USA's data center in Irving, Calif., to reflect on the number of changes he has seen in IT during his 35-year career — especially those wrought by the Web. "There's been so much change in the last 10 years," he said. Gartner may turn out to be right about the future of IT operations jobs, Wagner added, "but I don't know if anyone knows the real direction."

## Workforce Evolution

Laurence Whittaker, supervisor of enterprise storage management at retailer Hudson's Bay Co. in Toronto, had a more blunt response to Gartner's prediction. "By and large, I think it's hogwash," said Whittaker, who didn't attend last week's conference. "This is something Gartner has been big on for years. I think they really minimize the value of and need for well-trained technology workers to support all this stuff."

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But many displaced mainframe systems administrators were able to shift to Unix or Windows systems or to new jobs in areas such as IT security, Funkhouser added. "In IT, there are thousands of jobs and disciplines," he said.

Walter Wilson, deputy CIO for Ventura County in California, is training the county's IT staffers to handle more sophisticated data center jobs, particularly as they begin installing virtualization technology. "It's a training issue more than anything else, because all these people are very capable," he said.

The situation is similar at Santa Clara University, said H. Michael Bonfert, manager of computer operations at the California school. Bonfert is shifting mainframe systems administrators to Intel-based servers as the university moves off of the mainframe, and he said the job losses predicted by Gartner "didn't scare me."

But, Bonfert added, the forecast should serve as a warning to IT professionals to stay current with technology. Whether data center workers can make the transition as the demand for IT skills changes "depends on the individual," he said.

Scott said that in the future, demand will grow for employees who have skills in project management and the design of IT architectures, and for those with business knowledge and end-user liaison capabilities.

Craig Symons, an analyst at Forrester Research Inc., said Gartner typically makes bold predictions in order to get people's attention. Even so, he said that a combination of factors likely will lead to a significant number of data center jobs being eliminated over time. "In a 20-year horizon, 50% might even be conservative," Symons said.

Technology changes will eventually make many current data center jobs irrelevant, agreed Andrew Efstathiou, an analyst at The Yankee Group in Boston. But Efstathiou said he expects Linux and other emerging technologies to foster demand for new types of IT technicians. "I can easily expect that 50% of the existing jobs will be eliminated, but you can easily have as many or more jobs being created," he said. **51220**

*Reporters Thomas Hoffman and Lucas Mearian contributed to this story.*

*Continued from page 1*

# Testing

president of technology infrastructure at Inveoture Solutions Inc., the internal IT arm of Vancouver City Savings Credit Union in British Columbia, plans to begin testing Microsoft Corp.'s Virtual Server software next year.

Fernandes said he expects to have to train his staff to perform some application troubleshooting tasks but added that he also views the testing process as an opportunity to find out if his vendors' use of the word *partner* rings hollow.

"*Partner* is this great word, but how many spell it correctly?" Fernandes said. He added that he plans to give the application vendors he works with this message: "You say that I'm an important customer, so show it."

Fernandes and other users said they have two strategies for dealing with vendor resistance to testing. One approach involves training internal IT staffers to do the necessary work on virtualized servers. The other might be called the blunt-force method: threatening to take their business elsewhere. Fernandes said he thinks that in 95% of the cases at his company, he could find an alternative application vendor if necessary.

## Demanding Support

Conference attendees said troubleshooting software is most likely to come from point-solution vendors that develop specialized applications, often for vertical industries.

Many of those vendors are relatively small and don't have the funding or expertise to test their software in virtualized environments, said William Miller, manager of computing services at Roche Diagnostics Corp., an Indianapolis-based maker of medical equipment.

Miller plans to conduct his own tests of third-party software on virtualized servers and then seek help from vendors if there are problems. He said he will deliver a message similar to the one that Fernandes has in mind: "Support me, or I'll go find another point solution."

Application support by third-party software vendors is "the main issue" in adopting virtualization technology, said Luis Franco, vice president of technology at Banesco Bank in Venezuela. Some vendors "don't want to assure the quality of their applications" on virtualized servers, Franco said, adding that the bank needs to increase the skills of its own personnel as a result.

In the long run, though, application vendors may have little choice other than to make the adoption of server virtualization software as easy as possible for users.

Gartner analyst Tom Bittman predicted that the average CPU utilization rate on two-way Wintel servers will increase to 40% by 2008, up from about 25% now. The rise will be partly driven by an increase in virtualization offerings, including Microsoft's Virtual Server, he said.

Some users believe that x86-based servers are so inexpensive, there's no point in buying virtualization software for them, Bittman said. But he argued that users may be spending more on x86-based servers as a whole than they do on mainframes or Unix systems.

The low-end servers also generate a lot of heat because of their increasing CPU power and density, contributing to cooling problems in many data centers, Bittman said [QuickLink 49953].

Dave Mahaffey, technical systems administrator at the Santa Clara Valley Water District in San Jose, said he was at the conference to talk to vendors and research virtualization issues. "We've got a server for every application, and it's getting out of hand," Mahaffey said. He added that he wants to consolidate servers and increase their CPU utilization rates from the current level of between 15% and 20% to as much as 50%. **51221**

## Virtualization View

*Continued from page 1*

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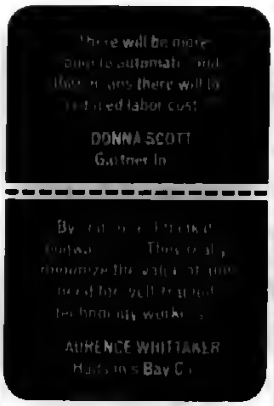


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Scott said that in the future, demand will grow for employees who have skills in project management and the design of IT architectures, and for those with business knowledge and end-user liaisoo capabilities.

Craig Symons, an analyst at Forrester Research Inc., said Gartner typically makes bold predictions in order to get people's atteotion. Even so, he said that a combinatioo of factors likely will lead to a significant oumber of data ceoter jobs heing eliminated over time. "In a 20-year horizon, 50% might even he conservative," Symons said.

Technology changes will eveotually make many current data center jobs irrelevant, agreed Andrew Efstathiou, an analyst at The Yankee Group in Boston. But Efstathiou said he expects Linux and other emerging technologies to foster demand for new types of IT technicians. "I can easily expect that 50% of the existing jobs will be eliminated, but you can easily have as many or more jobs being created," he said. **51220**

*Reporters Thomas Hoffman and Lucas Mearian contributed to this story.*

*Continued from page 1*

## Testing

president of technology infrastructure at Inventure Solutions Inc., the internal IT arm of Vancouver City Savings Credit Union in British Columbia, plans to begin testing Microsoft Corp.'s Virtual Server software next year.

Fernandes said he expects to have to train his staff to perform some application troubleshooting tasks but added that he also views the testing process as an opportunity to find out if his vendors' use of the word *partner* rings hollow.

"*Partner* is this great word, but how many spell it correctly?" Fernandes said. He added that he plans to give the application vendors he works with this message: "You say that I'm an important customer, so show it."

Fernandes and other users said they have two strategies for dealing with vendor resistance to testing. One approach involves training internal IT staffers to do the necessary work on virtualized servers. The other might be called the blunt-force method: threatening to take their business elsewhere. Fernandes said he thinks that in 95% of the cases at his company, he could find an alternative application vendor if oecessary.

### Demanding Support

Conference attendees said troubleshooting software is most likely to come from point-solution vendors that develop specialized applications, often for vertical industries.

Many of those vendors are relatively small and don't have the funding or expertise to test their software in virtualized environments, said William Miller, manager of computing services at Roche Diagnostics Corp., an Indianapolis-based maker of medical equipment.

Miller plans to conduct his own tests of third-party software on virtualized servers and then seek help from vendors if there are problems. He said he will deliver a message similar to the one that Fernandes has in mind: "Support me, or I'll go find another point solution."

Application support by third-party software vendors is "the main issue" in adopting virtualization technology, said Luis Franco, vice president of technology at Banesco Bank in Venezuela. Some vendors "doo't want to assure the quality of their applications" on virtualized servers, Franco said, adding that the bank needs to increase the skills of its own personnel as a result.

In the long run, though, application vendors may have little choice other than to make the adoptioo of server virtualization software as easy as possible for users.

Gartner analyst Tom Bittman predicted that the average CPU utilization rate on two-way Wintel servers will increase to 40% by 2008, up from about 25% now. The rise will be partly driven by an increase in virtualization offerings, including Microsoft's Virtual Server, he said.

Some users believe that x86-based servers are so inexpensive, there's no poiot in buying virtualization software for them, Bittman said. But he argued that users may he spending more on x86-based servers as a whole than they do on mainframes or Unix systems.

The low-end servers also generate a lot of heat because of their increasing CPU power and density, contributing to cooling problems in many data centers, Bittman said [QuickLink 49953].

Dave Mahaffey, technical systems administrator at the Santa Clara Valley Water District in San Jose, said he was at the conference to talk to vendors and research virtualization issues. "We've got a server for every application, and it's getting out of hand," Mahaffey said. He added that he wants to consolidate servers and increase their CPU utilization rates from the current level of between 15% and 20% to as much as 50%. **51221**

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# Oracle Updates BI Tools, Content Manager

BY MARC L. SONGINI

Amid continued uncertainty surrounding the fate of its multibillion-dollar hostile bid for rival PeopleSoft Inc., Oracle Corp. this week intends to unveil updates to its content management and business intelligence tools, as well as other software at its annual user conference.

Oracle executives will also show the next generation of its business applications to a new audience, analysts said. Oracle OpenWorld began yesterday in San Francisco.

Company officials said the new content management capabilities are aimed at helping Oracle database users deal with large amounts of unstructured data, such as e-mails, that are becoming increasingly important as businesses work to comply with growing regulatory requirements.

Without offering details, Rich Buchheim, senior director of Oracle content management, said the company will show improvements to the scalability, security and usability of its content management software. "To deal with the deluge of information, information has to be handled in a more intelligent way," he said.

The company is also expected to unveil stand-alone business intelligence tools and improvements to Daily Business Intelligence, the operational reporting tool in its E-Business Suite 11i [QuickLink 51061], as well as grid computing capabilities for managing technology in the data center.

## Evaluating Technologies

Several users said they're interested in assessing Oracle's new technologies at the show. David Rudzinsky, CIO at medical instruments maker Hologic Inc. in Bedford, Mass., said he's focused on evaluating Oracle's new business intelligence capabilities. Hologic runs Oracle CRM and ERP software. Rudzinsky said he likes the Daily Business Intelligence tool set, though it's currently too rigid to allow anything but the views and reports that Oracle has predesigned.

Arthur Meacham, computer-assisted dispatch systems administrator for the Caddo Parish 911 Communications District in Shreveport, La., said he's looking for advice on upgrading from Oracle's Portal 9i to the 10g release.

Oracle's main goal this week will be to preview its 11i.10 business applications to potential users, said John Moore, an analyst at ARC Advisory Group Inc. in Dedham, Mass. Moore said he expects executives to discuss Oracle's PeopleSoft plans in private sessions with users. **51166**


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# New CEO Lays Out His Priorities for CA

BY MATT HAMBLEN

*Beleaguered Computer Associates International Inc. brought in veteran IBM executive* **John Swainson** *as president and CEO-elect to stabilize the company after the forced departure of predecessors amid state and federal investigations of financial irregularities. Swainson spoke with* Computerworld *recently about his challenges and early plans for CA.*

**What's it feel like to leave IBM after 26 years and suddenly be CEO-elect of a major company?** It's a little daunting. You come in and know nothing and nobody, having arrived from an environment where you know everybody and everything. You are allowed to have that ignorance for 24 hours. It's a little intimidating, to say the least. [The CA team] has maintained a strong sense of morale and responsiveness to customers. My job is to shape an evolutionary path of growth after several years of arrested development.

**Are customers concerned about the legal problems that CA mostly settled in late summer?** I am not yet in the position to assess customer relationships. I'm not so naive that we don't have to deal with how customers see us. A lot of the legal and self-inflicted wounds are in fact behind us. A lot, but not all.

**I'm sure you heard customer attitudes about CA while you were at IBM. What are their feelings about CA now?** CA customers are relieved the issues are behind us. I'm not going to pretend I know how all of them feel yet. The fact that they have hung with us and are anxious for us to succeed says something. I want to give them a continued reason to justify that optimism. Our customers right now are watching and waiting to see what we do next. We have to still prove to them we are a relevant vendor to them. It's not a slam-dunk.

**How will you be dealing with the customers?** I plan to talk to or meet with one customer every day, something that I did at my old job. Sometimes it is a phone call or often in person. I don't feel good if I don't talk to a customer every day. I am a very customer-focused guy.

**Where do you rank customers compared to, say, investors or employees?** Customers pay the bills, so customers always come first. They eveo come ahead of investors. You cannot build a durable business if you do not have satisfied customers.

**CA World was postponed just before you arrived and then reinstated in your first days on the job. How were you involved in those decisions?** The decision to postpone was made pending my arrival. When I came aboard, I supported that [decision]. We are looking now for dates in the fall [of 2005]. I am anxious to do it. I like these things.

**You have talked about re-examining the status of the 500 or so products in the CA portfolio. What might stay or go?** I have no idea. That's the honest answer. But I'll tell you how I am approaching this problem philosophically. I'm not looking to dump products, and [I] have a commitment to support customers on a going-forward basis. It's logical that of 500 products, not every one represents the strategic future of how customers want to build or run or manage their enterprise. Life-cycle and systems management and security are very highly valued under the banner of enterprise infrastructure management. We're looking for ways to integrate those [priorities] and augment them through acquisition or development and to really concentrate ou the things we're particularly good at.

**Will you continue to place a reliance on mainframe products, even though some financial analysts see that market slipping?** Mainframe products account for 50% of CA revenue. Quite obviously, we'll continue to focus on [the] mainframe, and we believe it's a very durable long-term platform for a lot of things. Mainframes are not going away. IBM is selling more than at any time in history. We'd be crazy not to focus on [the] mainframe. But you die if you don't continue to innovate and go forward. We want to be the systems and security management leader around [the] mainframe, and we'll continue to invest in it. We also have to focus where growth is — Windows, Linux and distributed systems. We have solutions for those. Our play is integrated solutions around the enterprise.

**As for the effort to resolve CA's legal issues, the U.S. attorney in New York has ordered that you hire a compliance officer. What is the status of that effort?** As part of the deferred prosecutorial agreement, we will add a chief compliance officer. We are in the process of finding someone that has the right profile and gravitas to be able to do this job. I do not have any idea when we will have the compliance officer. I learned a long time ago that it is impossible to predict when these things will close. **51145**

# CA: Confusion Already

**WELL, GOOD GRIEF. Talk about a missed opportunity to send out a message of control and stability. When Computer Associates announced on Nov. 23 that it had found a CEO after seven months of acting-CEO limbo, CA's users had reason to breathe a sigh of relief. Finally, they could look ahead with the conviction (oops — poor choice of words) that the era of senior management incompetence had ended. Then the next day, John Swainson, the 26-year IBM veteran who got the nod, opened his mouth, and a new round of confusion began.**

DON TENNANT is editor in chief of *Computerworld*. You can contact him at don_tennant@computerworld.com.

To explain, we need to back up. On Nov. 22, CA posted a letter to users on its Web site stating that the next CA World user and partner conference, originally scheduled for April 2005, would be postponed to the spring of 2006. The reason, the letter stated, was to enable the company "to transform CA World into a true industry thought leader event that will focus on the key business issues and technology industry trends that are most important to our customers."

Then, on Nov. 24, Swainson told *Computerworld* and other media outlets that CA World would be held in 2005 after all, sometime in the fall. Well, thank you, John. But as of Dec. 1, would we have been better advised to believe you or CA's Web site, which was still proclaiming that the event would be postponed to the spring of 2006? (See interview, page 19.)

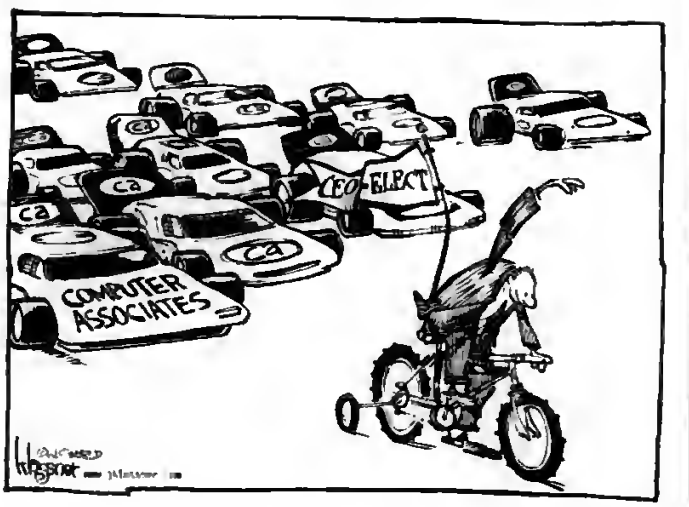
Ordinarily, we could probably presume that Swainson knew what he was talking about and that CA was just lax about updating its Web site to reflect the change of heart. But there's another nagging element to all this: It's difficult to know the extent to which Swainson is in a position to make those sorts of decisions, because the board opted to withhold the keys to the kingdom for a period of four to six months. Swainson will be "CEO-elect" during that time, and CA's acting-CEO limbo will persist. The company could have conveyed the message that Swainson is unquestionably qualified to lead CA into the future by simply handing over the keys on Day 1. Instead, the message is, "We're not really sure about this guy, and we're going to need four to six months to get him up to speed."

It's difficult to imagine that if CA had managed to lure somebody like Steve Mills, the guy in charge of IBM's software business, that this transition period would have been necessary — or that someone like Mills would have agreed to it.

And speaking of Mills, there's another red flag that users might need to be concerned about: Given Swainson's tight association with Mills, the relationship between Swainson and Mark Barrenechea must be awfully awkward. Barrenechea, CA's executive vice president of product development, has been outspoken in denigrating IBM's software business in general and Mills in particular. After Mills said some unflattering things about CA last April, Barrenechea told me that "IBM has a long history of failed attempts" with software, that "software is an afterthought at IBM," and that Mills is the "VP of afterthought" [QuickLink 46420]. That probably didn't endear him to Swainson, who most recently was vice president of IBM's worldwide software sales force.

The bottom line is that CA needs to make up for the lost opportunity, and fast. A good first step would be to ax this CEO-elect nonsense and give Swainson the vote of confidence users need to see. As it is, it's a recipe for confusion. And CA's users have been force-fed that dish long enough. **51111**

Don Tennant




# Using PR To Win the Info War

**AS COMMANDER in chief of the Continental Army, George Washington learned a lesson that many IT leaders lamentably come to appreciate too late in their careers: True victory is accomplished not on the battlefield, but in the hearts and minds of those engaged. In other words, public relations matters.**

Washington lost more battles than he won. Despite this, he was eulogized by Revolutionary War hero Light-Horse Harry Lee as being "first in war, first in peace, first in the hearts of his countrymen." When you are gone, will IT be first in the hearts and minds of your CEO and board of directors?

IT leaders find themselves waging a high-stakes info war. True victory for IT leaders lies not in getting enterprise systems deployed or annual budgets approved. It lies in capturing the imaginations, respect and energies of a broad and diverse set of stakeholders, including suppliers, customers and line-of-business executives.

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at thorntonmay@aol.com.

Soldiers fighting battles with projectile weapons speak of the "fog of war" — confusion about what is going on. Info warriors speak of the "fog of facts" — confusion about which information is to be believed, which sources are credible and which version of reality is to be acted upon. In a world of multiple sources of information and 24-hour decision-making, the very character of information is changing. A "fact" is no longer a fact.

Today, anyone — vendors, consultants, reporters, disgruntled former employees — can report on and distort what is going on in your IT shop. Not a week goes by in which a mind important to you — that is, an info target — isn't presented with a version of the facts that isn't consistent with or sympathetic to where you are going

DON TENNANT

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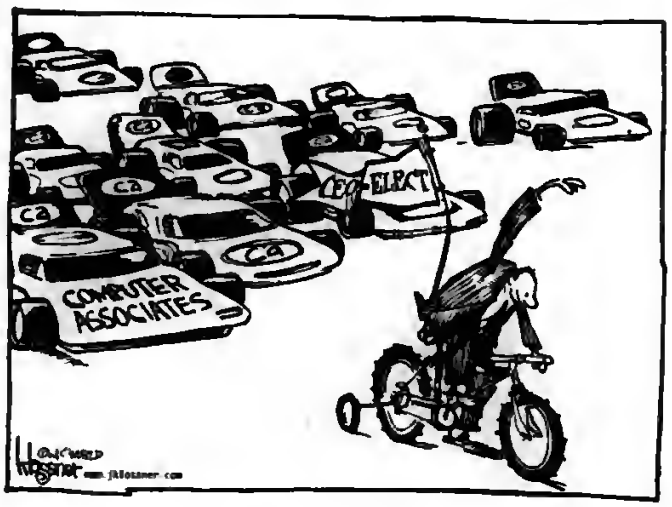


THORNTON A. MAY

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# Dawning of the Converged IP Network

## INTELLIGENT "SYSTEMS-ON-A-CHIP" EARNING IT ACCOLADES

BY ELISABETH HORWITT

Broadband IP network convergence has been redefining itself of late, both as a market and as a corporate strategy. As a result, "We've emerged from the 'kick-the-tires' phase," says John Roese, CTO of Enterasys Networks. "CIOs are seeing something meaningful at the end of the tunnel that will make workers more efficient and effective," and their companies more competitive.

As the technology has matured, and products have become more standards-based, corporate technical decision makers have gained confidence that a converged IP network infrastructure will provide a firm, forward-migratable foundation for the next wave of strategic business applications. "Our customers told us they wouldn't go with IP telephony if they're just getting an IP phone that acts like their former telephone, or if they're just moving from one proprietary architecture to another," Roese notes.

A lot of big corporations have spent the last few years consolidating data streams fmm multiple applications and access points onto a single backbone based on TCP/IP and high-speed Ethernet. Recent statistics tell the story: Dell'Om Gmup expects Gigabit Ethernet port shipments to at least double, from 13 million units in 2003 to more than 27 million in 2004, according to Seamus Crehan, a director at the networking and telecommunications research firm.

More recently, companies have begun moving beyond broadband converged data networking toward a fully integrated, enterprise network infrastructure that can handle the full range of services: from teleconferencing to storage networking to server clustering. Helping them to reach their goal with a minimum of pain is an emerging breed of intelligent network hardware based on highly integrated semiconductors known as "systems-on-a-chip."

"Whether you're talking about VoIP [voice over IP] or iSCSI storage, it's not just about high-speed connectivity anymore; you have to move bits around the network intelligently, in order to ensure security, reliability, and quality of service," says Roese.

Increasingly intelligent and versatile IP network infrastructures are forming the basis for a wave of new applications that are providing businesses with strategic advantages as well as significant cost savings.

### Moving Beyond VoIP

Consider, for example, the veritable explosion in American companies' use of VoIP technology that merges voice and data onto a single IP/Ethernet infrastructure. A 2003 IDC report predicted that U.S. spending on hosted VoIP will reach approximately $281 million this year, growing to $1 billion next year (2005). By 2007, revenue is expected to reach $6.7 billion.

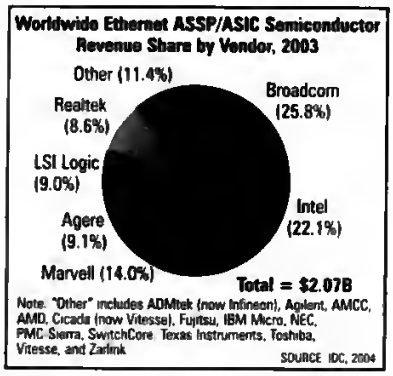
In a 2003 Nemertes Research survey of 42 large corporations, 62% of respondents said they were currently using IP telephony; 19% were running a trial; and the rest planned to implement it within the next year or two

The reported return on investment (ROI) and measurable benefits the VoIP pioneers cite are impressive, and include lower maintenance and management costs, the result of dealing with one set of network boxes, interfaces, and cables instead of two or more. Companies report saving thousands of dollars per month by using IP telephony to bypass long-distance toll calls; global firms have saved much more on international calls.

And cost savings are just the beginning. Converged IP networking has paved the way for a new generation of applications and software tools that are boosting end-user productivity and helping companies gain a competitive advantage. >>>>

Instant voice messaging is a perfect example, says Jeff Snyder, a research vice president at Gartner "You click on my name, and my phone rings, no matter where I am; as long as I'm logged onto the network, it knows how to reach me. Drag in a colleague's name and you have an ad hoc conference call."

Another promising development is convergence on end-user devices across a unified end-to-end infrastructure. Broadcom has introduced switch and VoIP chipsets, for example, that will enable OEMs to build Wi-Fi®-enabled cell phones, "so you can roam between the cellular and Wi-Fi IP telephony worlds with one device," says Roese.


Worldwide Ethernet ASSP/ASIC Semiconductor Revenue Share by Vendor, 2003
Other (11.4%)
Broadcom (25.8%)
Realtek (8.6%)
LSI Logic (9.0%)
Intel (22.1%)
Agere (9.1%)
Marvell (14.0%)
Total = $2.07B
Note: "Other" includes ADMtek (now Infineon), Agilent, AMCC, AMD, Cicada (now Vitesse), Fujitsu, IBM Micro, NEC, PMC-Sierra, SwitchCore Texas Instruments, Toshiba, Vitesse, and Zarlink
SOURCE IDC, 2004

## User Demand Driving IP Convergence

Indeed, user demand is one of the biggest drivers behind converged IP networking strategies. "Users want voice, data, and video services delivered in an integrated fashion," to support the growing body of multimedia productivity tools and applications being offered on desktops, laptops, and the latest mobile computing devices, says Charles Salameh, vice president of emerging solutions at Bell Canada, a telecom service provider and systems integrator.

IT decision makers see converged IP networking as their best shot at meeting users' multimedia needs over the long haul. And they're counting on intelligent Gigabit Ethernet hardware to help them with quality of service (QoS) and security management, across an increasingly diverse set of network services and media traffic.

To address this demand, networking vendors are providing their latest Gigabit Ethernet products with the intelligence to handle these tasks and a great deal more. And much of this high-level intelligence resides in silicon solutions that have traditionally been the "outs and bolts" of networking equipment, says Kevin Tolly, president of The Tolly Group research firm. In the last year or two, chipmakers like Broadcom "have gone up the stack tremendously, and have preintegrated a lot of the functionality and capabilities," he adds.

"The trend is toward supporting a higher capacity of networking interfaces and a broader range of services on the same piece of equipment, and using silicon intelligence to handle sophisticated management of converged applications running across a single Ethernet network," says Ford G. Tamer, group vice president of Broadcom's Network Infrastructure Business Group. "Such migration to converged IP networks can mean huge savings in maintenance costs," he adds. "You're managing your desktops, laptops, VoIP phones, wireless access points, security, and storage needs within the same equipment, instead of across two or more boxes."

## Broadcom in Step with Key Trends

Broadcom® silicon solutions are at the forefront of these trends. For example, systems using Broadcom's StrataXGS® family of enterprise switch products offer enhanced scalability and multilayer intelligence to address the different service-level needs of voice, video, and data traffic within business environments, Tamer says. This enables IT managers to maximize network uptime and ensure security while promoting ease of management.

Furthermore, Broadcom's NetXtreme™ II C-NIC (Converged NIC) is the first Gigabit Ethernet NIC that can simultaneously perform storage networking, high-performance clustering, accelerated data networking, and remote system management on a standard Ethernet network, according to Allen Light, Broadcom's server controller product line manager.

One of the big advantages of the C-NIC is its ability to offload a variety of functions from the host CPU, "freeing up processing cycles and enabling the server to handle other functions," says Sean Lavey, a program manager at IDC. For example, Broadcom's C-NIC has a TCP/IP Offload Engine (TOE) that takes over the processing of TCP/IP stacks.

During a Microsoft® benchmark test, Broadcom's BCM5706 C-NIC, equipped with a TOE, had a throughput of 1.8 Gbit/sec at 20% CPU utilization, and used only 3 watts per Gigabit. In comparison, the same Windows® server equipped with an Intel® non-TOE Gigabit Ethernet NIC had about 1.5 Gbit/sec at 95% CPU utilization, and used 90 watts per Gigabit.

Other key C-NIC offloading capabilities include:

- Remote Direct Memory Access (RDMA) that enables servers in high-speed clusters to write directly to each other's memory, bypassing the bus. This eliminates potential bus bottlenecks and boosts performance, enabling clustered X-86-based servers to handle applications that ordinarily require high-end, and much more expensive, Unix machines.
- Support of the iSCSI protocol that allows IT professionals to move block-level storage from a dedicated Fibre Channel SAN onto a shared converged IP network.

C-NICs, and other recent Broadcom offerings, also represent the leading edge of an important industry trend, in which network equipment manufacturers build their products with more "systems-on-a-chip" and fewer custom ASICs. In this way, they can bring new products to market faster and more cheaply, which translates into more choices and lower costs for customers, says IDC's Lavey.

Enterasys used Broadcom's StrataXGS silicon as a critical component for its Matrix C2 line of layer 3 stackable IP switches, announced in September 2004. "The intelligence of Broadcom's componentry provides the foundation for many security functions, enabling support for multimodal systems, predictability, and integration," says Roese. By using Broadcom silicon, with built-in capabilities like classification and policing, Enterasys was able to deliver the new switches in about eight months, "more cheaply, and compromise-free," he adds. In contrast, building the product from scratch internally, using custom ASICs, would have taken about 18 months. The benefit for Enterasys' customers: "They get state-of-the art equipment, while still keeping up with the market's progression toward faster, cheaper equipment."

# Delivering End-to-End Manageability

As companies get serious about converged IP networking, network managers' jobs are getting both more complex—and a whole lot easier.

Certainly, it can be tricky maintaining a seamless traffic flow when many different types of media and applications are sharing the same IP fabric. On the other hand, "every network administrator understands the Internet Protocol," says Allen Light, Broadcom's server controller product line manager. Network staffers are saving time and trouble by making use of familiar, SNMP-based tools to manage voice, data, video, even storage on a single, integrated infrastructure.

Furthermore, converged networking "allows our customers to move from what I call a manufacturing-line mentality, where storage, networking, and clustering are each administered separately and on separate fabrics, to a single, lower-cost IP-based infrastructure," says Paul Perez, vice president of storage, networks, and infrastructure at Hewlett-Packard's Industry Standard Server business. With fewer propretary protocols and fewer boxes, network and element management becomes much simpler.

Beyond that, IP networking equipment keeps getting smarter, increasingly able to take over complex and time-consuming management tasks from human administrators.

## Intelligent "Systems-on-a-Chip"

"We're moving toward automated network management," Perez notes. Switches, edge routers, and NICs equipped with intelligent "systems-on-a-chip" are taking more and more responsibility for end-to-end security, quality of service (QoS), and bandwidth allocation.

For example, Broadcom and its OEM partners are coming out with switches that can automatically prioritize and load balance different types of network traffic across different ports. As a result, human technicians spend less time tweaking and fine-tuning network equipment in order to ensure QoS on multimedia networks.

Intelligent, silicon-based hardware is also taking over demanding network tasks like processing TCP/IP stacks and encryption. C-NICs (Converged NICs) can offload chores from host CPUs; subsidiary processors can take over jobs from central processors on network switches. The result: better performance and longer intervals between upgrades.

In addition to improving server and network performance, C-NICs simplify the interfaces to each server and rack. They require fewer connection points, cables, and adapter cards. Upgrades and the addition of new features become simpler as well, says Broadcom's Light. Because all changes are localized on the network card, they are transparent to the host operating system and applications.

## Easing the Administrator's Pain

What this boils down to is a lighter burden on human technicians. Indeed, if network hardware continues to get smarter, Gigabit Ethernet TCP/IP networks will soon be able to manage themselves. The underlying hardware will respond quickly and automatically to unexpected events and problems, and IT and network managers will be free to focus on more proactive and business-specific tasks.

## Not All Silicon Is Created Equal

All this is good news for corporate decision makers. But Tolly adds a caveat: It's becoming crucial that IT executives "look under the hood" when shopping for Gigabit Ethernet equipment, and ask a few pointed questions about the brand, feature sets, and configuration of the underlying chipsets—before making a buying decision. One important question to ask: Will it interoperate with other types of equipment?

Broadcom has a three-pronged interoperability strategy. First, it has been an industry leader in both the development and implementation of key industry standards like RDMA, iSCSI, Wi-Fi, and the IEEE 802.1x Extensible Authentication Protocol. Second, it does extensive testing to ensure all of its products are backward and forward interoperable, and can support legacy applications. Finally, Broadcom provides support for vendor- and operating system-specific de facto standards that enable networking equipment to work seamlessly with the host computing platform.

For example, Broadcom currently provides the only TOE on a chip that interfaces with Microsoft's TCP Chimney. Support of Chimney enables TCP/IP Offload Engines to interface directly with Windows, offloading TCP/IP processing for all network traffic, Broadcom's Light explains. Without that operating system support, a TOE can only work on an iSCSI adapter that bypasses the operating system.

## How Well Does It Perform?

IT managers also need to check published benchmark tests that compare the performance of the same type of chip from different vendors. eTesting Laboratories found that Broadcom's NetXtreme 64-bit PCI-X Gigabit Ethernet server adapter achieved significantly higher throughput rates compared with the Intel Pro1000 XT server adapter.

Network equipment performance depends not only on the power of the underlying silicon, but on "architectural choices that chipmakers are increasingly making," says Tolly. Customers should ask questions like: "Do they support the latest industry standards? How much memory or intelligence did they put on the chip? Are tasks like IPSec encryption handled by the main processor or offloaded to a subsidiary?"

The bottom line, according to Tolly: There is a big difference between custom ASICs and standards-based, system-level semiconductors designed and tested to work together across the network. "You can do enough research on a chipmaker's products, like Broadcom's, to get a pretty good idea of what those silicon solutions can do for you," says Tolly. "Then you can ensure good performance across your network by ensuring that all your equipment is built on that chipmaker's hardware." ■

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# LOOK WITHIN — YOUR NETWORK IS MORE POWERFUL THAN YOU REALIZE

To engage the immense power of IP convergence — data, voice, applications, networks — the underlying technology must function securely, reliably and efficiently. Only Broadcom® offers end-to-end networking chips with the built-in power to manage convergence — from core storage and servers, through switch fabrics to desktops, multi-functional devices and beyond. Broadcom's wired and wireless technology throughout the network reduces complexity and enhances the end-user experience. With Broadcom, there is no gap between legacy and future technologies — only seamless communication at maximum speed. Technology advances. Networks expand. Control is maintained.

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and what you are trying to do. You are in an info war. Research from the IT Leadership Academy has revealed several best practices:

**1.** Recognize that you're in an info war.

**2.** Identify key info targets — minds you want to make sure have a nontoxic version of the facts.

**3.** Create an info map of information sources that charts who is talking and how people learn about your practice of IT.

**4.** Create listening posts to monitor the buzz about your IT shop, such as discussion boards on IT in your company and weblogs by direct reports.

**5.** Create official sources of truth in the form of authorized "voices" or spokesmen.

**6.** Create semiauthorized human firewalls — experts who know you and your IT shop and who generally know what you are doing and where you are going — who can be contacted when trouble arrives.

**7.** Embed and empower storytellers in your organization — people who have good judgment and good powers of observation and who can truthfully tell you and others what is going on.

**8.** Create authorized information "moments," such as briefings, blogs, webinars and lunches.

**9.** Expand your organization's "smartwidth," or its capability to understand information. Broadband gives us more information. Smartwidth gives your organization more understanding regarding what all this information means.

**10.** Hire an ad agency — or first-year business students who will someday work in an ad agency — to review your IT group's "brand."

Perform these simple tasks and you are well on your way to being a successful info warrior. **51094**

PIMM FOX

# Supply Chain Software Is No Match for Profit Quest

IF YOUR family is like mine, the week after Thanksgiving usually consists of eating turkey. Lots of turkey.

There must be something wrong with our enterprise software inventory and supply chain management application, because this year, we once again miscalculated the amount of food needed for our Thanksgiving meal. And it isn't as though we don't appreciate the value of an inventory management system for the purchasing, production and distribution of the cranberries, mashed potatoes and pumpkin pie. Like most families, we're always trying to lower the inventory in our refrigerator to decrease our working capital.

But sometimes it's those silly guests. They tell us they are going to show up, and — well, something happens.

Of course, we probably would make too much food even if we were planning to feed only ourselves, but our gluttony is nothing compared with the overcapacity now facing the folks who make flat-panel LCD televisions. And while my family's need for supply chain management is facetious, theirs is the real thing. But the question is whether the technology would have been able to stop the manufacturers from bringing on so much capacity.

LCDs have been coveted by just about every sports-watching, decorating-conscious or cartoon-entranced human being old enough to work a remote control. But envy doesn't equal sustained profits. At around $4,000, prices have been too high to lure many shoppers into buying a large-screen flat-panel TV. Low production volume is the main culprit. But now the profits of the flat-panel industry are about to experience the same sort of lethargy you get from eating too much turkey.

About 3 million of the 20 million television sets sold in the U.S. this year will be flat panels, but sales could be greater if consumers weren't betting on a steep price fall in 2005.

And prices won't simply fall next year — they will plummet.

Manufacturers and industry analysts estimate that prices could drop by 30% in 2005 and even further in 2006. That means a flat panel that has a price tag of $4,000 today will be under $1,000 by 2007, according to iSuppli, a El Segundo, Calif.-based market analysis firm.

What happened?

Manufacturers went crazy spending money to build factories at around $1 billion to $3 billion a pop. Ten new plants that gobbled up about $20 billion are slated to begin churning out flat panels by the end of next year. That should boost industry capacity by 70%, and more plants are on the way. Hitachi, Matsushita and Toshiba are in a joint venture to spend $1 billion to make flat-panel TVs in 2006.

As those production lines start to spit out flat panels, prices will crater.

Software was supposed to prevent this type of boom-and-bust cycle, but it doesn't. It never will. Corporations will always pile into a market if they smell profit.

For some companies in Asia, LCD sales have helped boost profits. But for the leader in flat-panel LCD TVs, LG.Philips, the squeeze on margins has begun. The company reported a 15% drop in its third-quarter profit.

Falling LCD prices could also hurt Sony, Samsung and TCL-Thomson Electronics, which makes the RCA brand.

So, where is all the fancy supply chain management technology? Where are those dashboards, those reports, those metrics that were promised? All the whiteboards in the world with arrows and colored markers don't seem to have amounted to much when confronted with a booming market and potential profits.

Management hubris won't be stilled by IT. It never was, and it never will be. **51108**

## WANT OUR OPINION?

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**www.computerworld.com/columns**

# READERS' LETTERS

## Driving Security

**BRUCE SCHNEIER'S** latest opinion piece in *Computerworld*, "Make Vendors Pay for Security Flaws" (QuickLink 50161), is correct on premise but flawed on proposed solutions. We should make vendors pay for security flaws, but increased liability law is not the answer. We are in dire need of tort reform as it is, and liability law would push up legal and insurance fees and do the end user no good. Instead, IT managers need to learn to vote with their feet. They should pick software solutions from vendors with proven security records, or demand that security be in place before they purchase. Let the market do the work, not the lawyers.

Schneier's argument supports the "build it first, out security on later" mentality, which sadly seems to be prevalent in the industry. But there's another force that is going to drive the security issue a lot harder than before – Sarbanes-Oxley. As IT managers audit their applications, they're making mental checklists of new questions and requirements to ask of software vendors. Why are these passwords stored in plain text in the database? And why doesn't this application lock out users after three failed password attempts?

**Gregory J. Haase**
*IT manager, Ewing, N.J.*

## Fostering Creativity

**WHO COULD** disagree with Paul Glen's ideas about encouraging creativity in technical staff ("To Each His Own," QuickLink 49487)? However, if someone wants to try his hand at writing, there are no "wrong questions," because any advice you offer brings the questioner one step closer to making an attempt. If someone is curious about whether you try out your jokes on your wife, it's great that he noticed your humor and, instead of being a passive recipient, is thinking about how to be entertaining when giving a talk. If someone asks what time of day you do your best work, he's one step closer to carving out some time to write. I agree with Glen's basic premise that managers need to understand the variety of ways in which staffers do creative work, but he needs to understand and better encourage people who want to try new forms of expression and help them be successful at it.

**Lisa Neal**
*Editor in chief, eLearn Magazine, Lexington, Mass.*

## Sponsor Support

**REGARDING** Mitch Betts' "Building Bridges: Marketing IT" item in the Oct. 4 Think Tank (QuickLink 49502), I would add a sixth point: Assign skilled and committed marketing division sponsors to all marketing projects, and make the sponsors personally responsible for the promised project benefits. This will improve the success rate of marketing projects by much greater than the suggested 15%.

**Gopal K. Kapur**
*President, Center for Project Management, San Ramon, Calif.*

**COMPUTERWORLD** welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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FUTURE WATCH

**Riding the Grid Wave**

Grid technology expert Wolfgang Gentzsch says grids are coming in three waves. Eventually there will be no difference between the Internet and "the grid," he tells *Computerworld*. **Page 30**

SECURITY MANAGER'S JOURNAL

**The Password Is: Useless (Probably)**

Our security manager finds that her company needs a new password policy. Could passphrases and single sign-on be the answers? **Page 32**

OPINION

**802.11n's Pregame Show**

Robert L. Mitchell says vendors that imply that their WLAN products comply with the nonexistent 802.11n standard do the customer a disservice. **Page 34**

**What's this? See PAGE 24 for the Jawbone.**

**This will help you find your way. See PAGE 24 for the Go.**

more cool tools

To read about other intriguing hardware, visit our Web site.

QuickLink 51003

computerworld.com

## fabulous phones for all

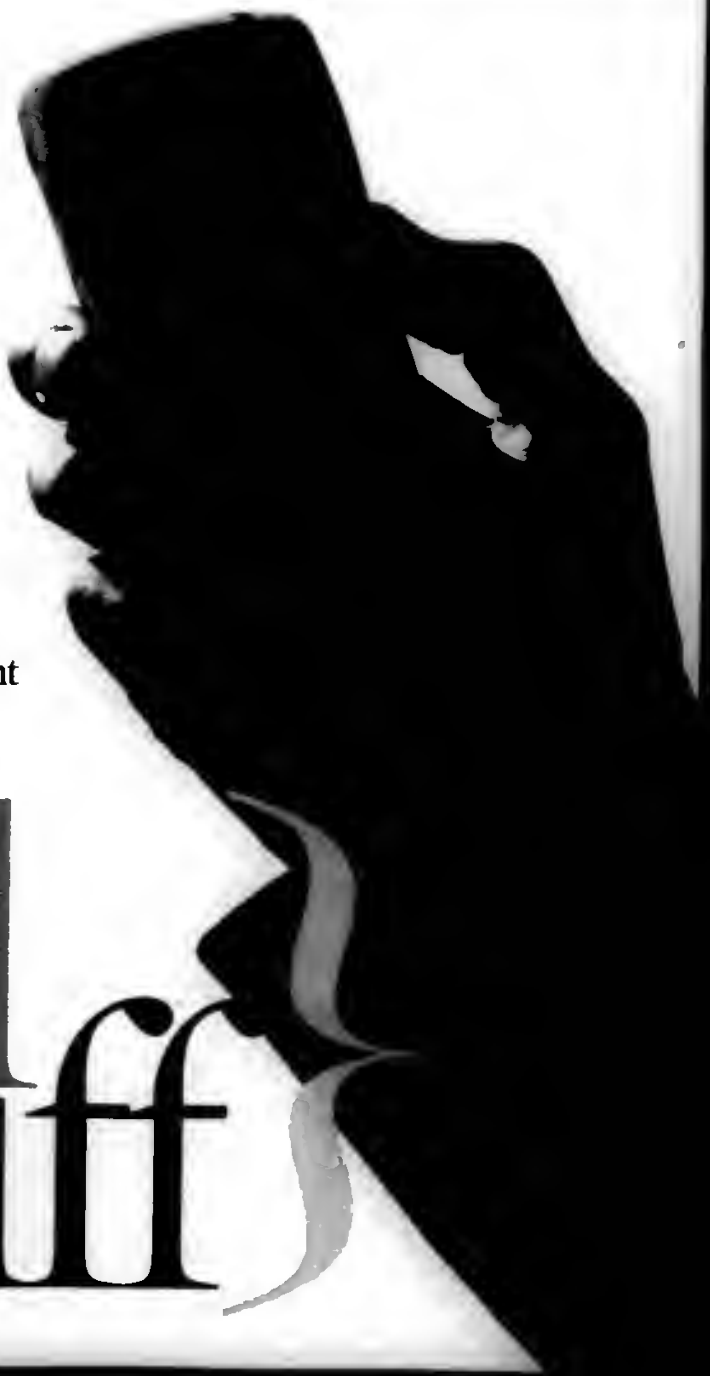
**BlackBerry 7100t**

**PRICE: $200**

**Research In Motion Ltd.**

**www.rim.com**

At long last, a BlackBerry that looks and feels like a phone – and the 7100t handles e-mail as well as its predecessors did. RIM created the thumb keyboard, and it takes a somewhat different approach with this device, assigning two letters per button and building in an extensive dictionary with artificial intelligence that excels at guessing and completing words as you start typing them in. Initially available from T-Mobile, it's likely to be adopted by other carriers.



**For the gadget mavens** on your holiday shopping list, we present our annual look at some of the great new gizmos available for the office and home and on the road. **By Russell Kay**

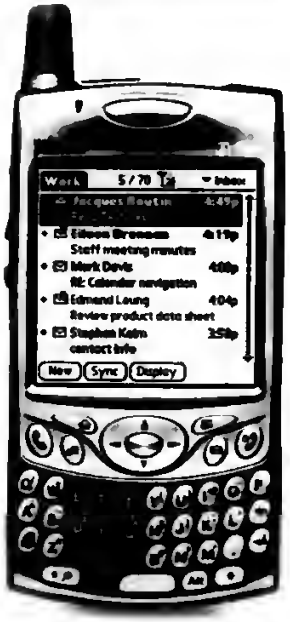
# cool stuff

# stuff

## phones

### Jawbone
PRICE $150
**Aliph**
**www.jawbone.com**
Cell phones are great. But if you've ever tried to make yourself heard from a crowded trade-show floor or another noisy environment, you know that using them can be a trial at times. Add Jawbone, a noise-canceling headset based on technology developed for the military, and you can be heard clearly and distinctly. The difference in clarity is remarkable. The Jawbone is small and sits comfortably on the ear.

### Cellboost
PRICE $7
**Compact Power Systems Inc.**
**www.cellboost.com**
Cell phones go dead at the most awkward times. Instead of buying an expensive second battery to carry around (and having to remember to keep it charged), try Cellboost, a small, disposable battery charger. The matchbox-size unit instantly restores power to your cell phone and lets you keep talking while charging the phone, and you don't need an electrical outlet. Cellboost units are made for most popular brands of cell phones.



### Treo 650
PRICE $600
**PalmOne Inc.**
**www.palmone.com**
If you can carry just one device, this is my pick. It's a phone, a full-fledged PDA, a music player, a voice recorder and a digital camera, all in a nice package. It's neither as small nor as large as some of its competitors, but it does almost everything you might want and does it well. The Treo 650 is a hefty investment (check your cell carrier for better deals), but it gives you a lot of capability. Screen resolution has quadrupled to 320 by 320 pixels, and processor speed is now 312 MHz. Bluetooth is built in for hot-syncing and headsets, and the keyboard is backlit and slightly (but quite noticeably to your hand) larger. The rechargeable battery is now removable, so you can have a spare. Finally, if you opt for a GSM version, you also get enhanced data rates for GSM Evolution capability.

## getting around

### CodeScout
PRICE $130
**AutoXray Inc.**
**www.autoxray.com**
When your car's "check engine" light comes on, you know you might have a problem, but what is it? Until now, you had to visit your mechanic or dealer to find out. Now you can buy a consumer version of the dealer's scanner that will check your car's trouble codes and help you discover what's wrong before you have to reach for your wallet. CodeScout covers all current diagnostic protocols, including the newest one that will be mandated for all vehicles by 2008.

### Go
PRICE $1,000
**TomTom BV**
**www.tomtom.com**
Global Positioning System navigation units are old hat by now, but a new model, the Go, is the best I've seen. It's small and easy to use and has a terrific interface, as well as a slightly elevated 3-D driver's eye view. It comes preloaded with maps of the entire U.S. (Canada is available on CD), and it will run for hours on battery power, so it doesn't need to be connected directly to the car.

# converging your home

### PureAV55000 Remote TV
PRICE $500
**Belkin Corp.**
**www.pureav.com**
The PureAV55000 contains a transmitter and receiver that let you take input from one source (a television, cable box, DVD player, stereo system, video game or something else) and wirelessly send it to a TV, monitor, VCR or powered speakers in a different room. The unit offers a bandwidth of up to 40Mbit/sec. at a range of up to 350 feet. It handles standard-definition (but not high-definition) TV.

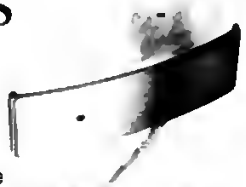
### WMLS11B Wireless-B Music System
PRICE $180
**Linksys (a division of Cisco Systems Inc.)**
**www.linksys.com**
This unit looks like a trim stereo radio, but it's much more. The WMLS11B provides a network connection (wired or wireless) between your PC and stereo system. It can also play PC-stored music directly through its two detachable speakers. A remote control is included.

# image is everything

### R-D1
PRICE $3,000
**Epson America Inc.**
**www.epson.com**
For decades, the legendary Leica 35mm Rangefinder camera was the choice of photojournalists because of its precision, reliability, outstanding optics, small size and fast, quiet operation. Now Epson has announced the world's first digital Rangefinder camera, which uses the same lenses made for those older, classic Leicas. At $3,000 (that's without a lens), the R-D1 clearly isn't a mass-market product, but it offers a unique marriage of old and new photography, combining the classic Rangefinder feel and operation with up-to-date digital capabilities. The camera features a magnesium-alloy skin covering an aluminum die-cast body, 6.1-megapixel resolution and a 2-in. LCD display on the back. The R-D1 uses Secure Digital memory cards with up to 1GB of capacity.

# cool stuff

## phones



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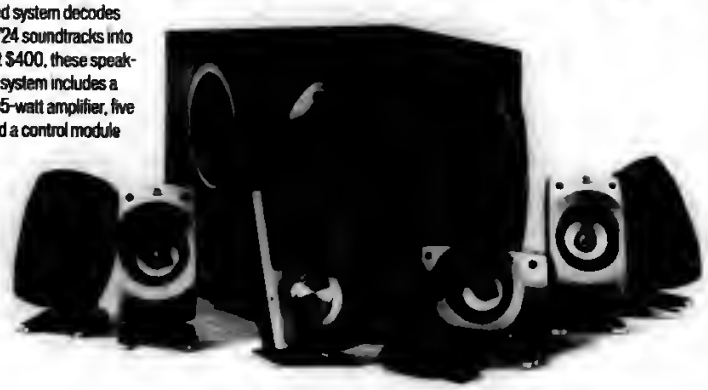
### Harmony Universal Remote Control
**PRICE: $230**
**Logitech International SA**
**www.logitech.com**
This remote control comes in several flavors, including one (the 680) designed specially for the newest round of multimedia Windows PCs. Logitech eases the process of programming your remote by automating the dialogs on the remote itself and including one-touch activity buttons that combine multiple functions for common tasks, such as watching a movie, listening to music or recording a TV show. The Harmony handles up to 15 devices – anything that uses infrared commands – and needs no macroprogramming. This might be the easiest way to simplify the tangle of home entertainment equipment, cables, switches and remotes.

### Logitech Z-5500 Digital Speaker System
**PRICE: $400**
**Logitech**
**www.logitech.com**
I've been a finicky audiophile for years, and this system does a seriously better job with music than my older (and far more expensive) British stereo speakers. For movies, radio and television, the control module in this THX-certified system decodes Dolby Digital, DTS and 96/24 soundtracks into true 5.1 surround sound. At $400, these speakers are a true bargain. The system includes a 10-in. subwoofer with a 505-watt amplifier, five small satellite speakers and a control module with remote control. The black and chrome system will work with PCs and home entertainment components, and you can plug PlayStation and Xbox games directly into the control module.



# kid stuff

### Novelty Mouse (football or ladybug)
**PRICE: $10**
**Logitech**
**www.logitech.com**
Need a couple of stocking stuffers for the kids? Try this pair of theme mice: one football, one ladybug.

### Hello Kitty Robot
**PRICE: $3,700**
**Business Design Laboratories**
**www.hellokitty.com**

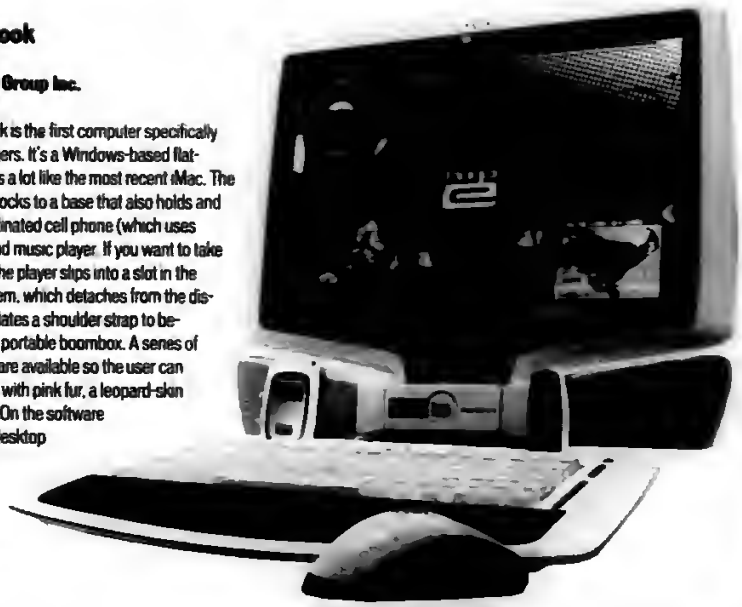
This 21-in. high "robot" looks like a cartoon and doesn't move, but it can learn your name and recognize and greet up to 10 people. Available only in Japan, its price is prohibitive, but it's an interesting product to celebrate Hello Kitty's 30th anniversary as a brand. The robot has a limited ability to sort patterns of conversations that have been preregistered, and the machine can talk back with phrases it thinks are appropriate to the occasion and to the person it's "talking" to.

### Juice Box
**PRICE: $70**
**Mattel Inc.**
**www.mattel.com**

This media player delivers programming from the Cartoon Network, World Wrestling Entertainment, BMG Music and other sources for kids aged 9 and up. The Juice Box has a 3-in. color screen and can play for up to five hours on three AAA batteries. The player takes a proprietary Juice Card cartridge that has a new 3-D, write-once chip from Matrix Semiconductor Inc.

### FinePix E550
**PRICE: Under $400**
**Fuji Photo Film U.S.A. Inc.**
**www.fujifilm.com**
The FinePix E550 runs on two AA batteries and powers up in about one second, and its 6.3-megapixel photo sensor (which can interpolate images up to 12 megapixels) and 4X optical zoom lens make big, sharp prints at almost any size. The 2-in. LCD display on the back is one of the biggest and brightest I've seen on a small digital camera. Pictures are stored on tiny XD memory cards. The camera comes with a 16MB card, so be sure to budget for an extra high-capacity XD card.

### Hip-E Notebook
**PRICE: $1,700**
**Digital Lifestyles Group Inc.**
**www.hip-e.com**
The Hip-E Notebook is the first computer specifically designed for teenagers. It's a Windows-based flat-screen PC that looks a lot like the most recent iMac. The wireless keyboard docks to a base that also holds and recharges the coordinated cell phone (which uses Sprint's network) and music player. If you want to take the tunes on a trip, the player slips into a slot in the stereo speaker system, which detaches from the display and accommodates a shoulder strap to become an automatic, portable boombox. A series of replaceable "skins" are available so the user can customize his Hip-E with pink fur, a leopard-skin design or whatever. On the software side, a customized desktop organizes applications by activity using a radio-dial-like interface. It's a dandy system, but pricey.



# cool stuff

## accessorizing your computer

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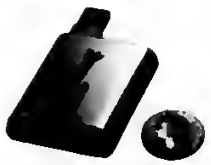

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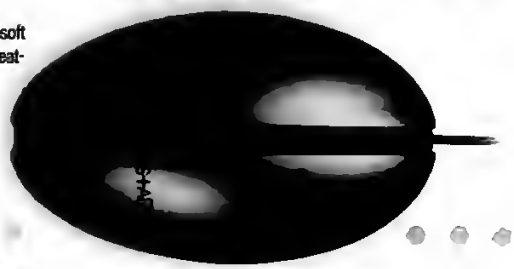

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## multi mobile media

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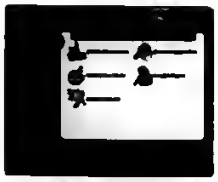

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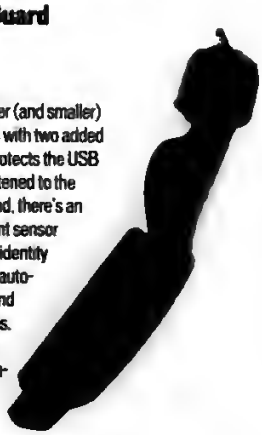

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**Cables Unlimited**
**www.ziplinq.com**

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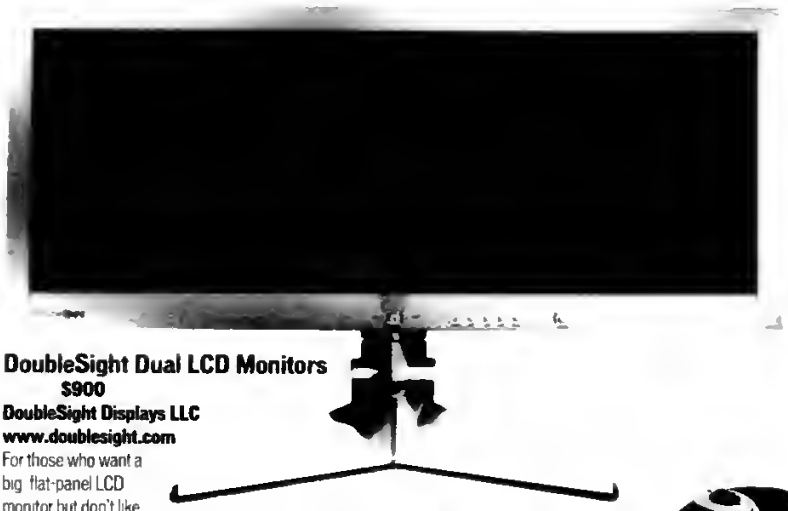

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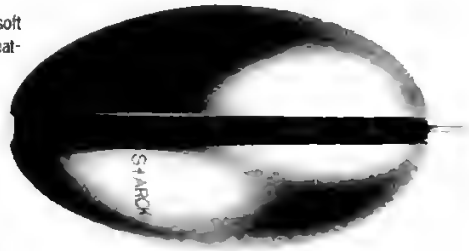

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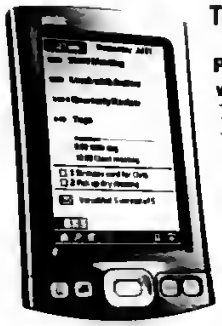

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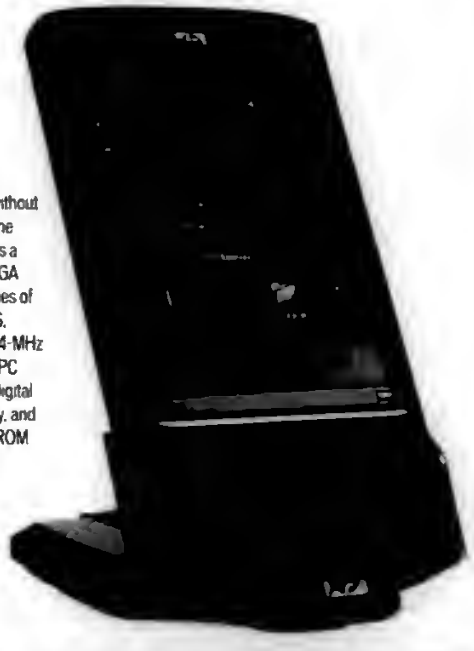

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**Key**

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3. **New specs modified in showroom.**
4. **Modified specs accessed via PDA.**
5. **Proposals sent to new leads pre-deadline.**

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ON DEMAND BUSINESS

# GRID WAVE

## Wolfgang Gentzsch says that, eventually, there will be no difference between the Internet and 'the grid.'

**WOLFGANG GENTZSCH** *says grid computing will come in three waves. The first, well under way, primarily involves the academic research community. The second, just beginning, brings in corporations as users. The third, still some years off, will add individual consumers to the grid. At that point, the Internet will be "the grid," says Gentzsch, managing director of grid computing and networking services at MCNC Inc. A preview of the grid can be glimpsed in the National LambdaRail testbed network, for which MCNC will serve as a technical support center. Gentzsch recently told* Computerworld's *Gary H. Anthes what it will take to ride the waves.*

**FUTURE WATCH**

**What's moving us into the second, corporate, wave of grid computing?** The IT vendors have their grid story in place — IBM, Sun, Oracle and the others — for the next generation of products that they want to ship and make money with. But there's no money in research grids, and consumer grids are far out. So the current interest is in the enterprise grid.

**But are users interested?** Grid technology can improve equipment utilization from 30% on average to something like 70% to 80%. So the interest of end-user companies has grown dramatically. Driven by the benefits — easy access, sharing of resources, easy failover and dramatically improving productivity — within the near future, companies will reduce cost and complexity [with grids].

Our products and systems are getting more and more complex, and the infrastructure is getting more complex. Scaling the infrastructure means scaling the people. But if you have a grid in place, you can handle a factor-of-10 increase in resources with the same people.

**How pervasive will grids be in corporations in, say, five years?** Companies in the life sciences and the financial sector are already advanced today in using local grid technology. In about five years, many of the Fortune 500 companies will be still growing globally, having subsidiaries all over the world, and within these subsidiaries they have IT equipment that may be empty because it's night. So now in a global enterprise grid, a company in Europe, for example, might want to send jobs to America, where people are still sleeping.

**Life sciences and financial companies tend to use grids for scientific applications and modeling. What about mainstream transaction-processing apps?** You can't really easily send independent transactions over the Internet. Sending a transaction to a remote server takes far too much overhead, so you send a whole application to a transaction server. You have several transaction systems distributed. It's a grid because the resources are distributed.

**Given all these benefits, why aren't we seeing much more rapid adoption of grids?** Let's take the hype out of it. Grids promise much more than they can deliver today because grid technology is not mature and complete. There are point products which solve a little bit but don't transform your whole environment into a grid. Grid standards are still missing.

And there are challenges beyond the technology. Server-hugging is still a key barrier to grids, people love their own little systems. Security is another issue. Also intellectual property — should I really run my IP-heavy stuff on another company's server, or send it over the Internet? There are legal issues, social issues, political issues.

**What's missing in standards?** The Global Grid Forum is working on these issues with something like 50 working and research groups in seven areas [such as applications, architecture, data, security and performance], and basically all the areas are immature.

For example, how to grid-enable software applications. Today you have to write interfaces manually. These interfaces need to be standardized so you can plug two software modules together seamlessly and at all levels — application, architecture, data, security and scheduling and resource management.

**You speak of the grid and the future Internet as if they were one thing.** The current Internet is just information. The grid adds things like collaboration, computing and other things that make it three-dimensional. It's doing real business and development and production on top of that. With [today's] Internet, you have information. But with the grid, you have access to the resources that use this information. Grids are getting more and more general-purpose. Eventually they will merge, and you have the next-generation Internet.

**Will it be based on the same standards as today?** Current protocols, like in Sonet, Ethernet and TCP/IP, were built more than 20 years ago, and they never anticipated the amount of data which they have to deal with today ... for the "grand challenge" applications. That's why the National LambdaRail has been started, and its key focus is to overcome the limitations of TCP/IP and other protocols.

**What about the third grid wave, the one for consumers?** We are talking about gaming grids, where hundreds of gamers come together and use the grid for really heavy interactive and compute-intensive stuff.

Also health care. If you have a heart attack or stroke and you are within 15 minutes of a hospital, you get easy help. But in the countryside, the percentage of people dying from heart attacks is at least 50% higher than in the cities. Now, a grid reduces distances to zero, so the country doctor has immediate access to all these expensive machines, which have digital heartbeats, in the hospital. If that hospital is too busy, the health care grid broker selects another resource that is least loaded.

**How far off are these third-wave capabilities?** Five to 10 years. Five is aggressive; 10 is definitely yes. **50785**

### NATIONAL LAMBDARAIL

**NLR (www.nlr.net)** is a consortium of research universities and companies working on advanced technologies in network architecture, end-to-end performance and scaling. It's also a testbed network based on optical Dense Wavelength Division Multiplexing (DWDM) that's capable of transmitting 40 simultaneous light wavelengths ("lambdas" or waves), with each wavelength able to transmit at 10Gbit/sec.

NLR is the first network to deploy transcontinental circuits based on Ethernet end to end. It's also deploying a routed IP network over the optical DWDM network. By next spring, NLR will connect research facilities in 27 U.S. cities.

Wolfgang Gentzsch

Managing director of grid computing and networking services

MCNC Inc., a nonprofit corporation in Research Triangle Park, N.C. Established by the state in 1980, MCNC originally focused on microelectronics research, but over the years it morphed into an advanced computation service center for grid technology in education, research and commerce. Gentzsch calls it "a grid acceleration center."

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**FUTURE WATCH**

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**How pervasive will grids be in corporations in, say, five years?** Companies in the life sciences and the financial sector are already advanced today in using local grid technology. In about five years, many of the Fortune 500 companies will be still growing globally, having subsidiaries all over the world, and within these subsidiaries they have IT equipment that may be empty because it's night. So now in a global enterprise grid, a company in Europe, for example, might want to send jobs to America, where people are still sleeping.

**Life sciences and financial companies tend to use grids for scientific applications and modeling. What about mainstream transaction-processing apps?** You can't really easily send independeot transactions over the Internet. Sending a transactioo to a remote server takes far too much overhead, so you send a whole applicatioo to a transaction server. You have several transactioo systems distributed. It's a grid because the resources are distributed.

**Given all these benefits, why aren't we seeing much more rapid adoption of grids?** Let's take the hype out of it. Grids promise much more than they can deliver today because grid technology is not mature and complete. There are point products which solve a little bit but doo't transform your whole environmeot into a grid. Grid standards are still missing.

And there are challenges beyond the technology. Server-hugging is still a key barrier to grids; people love their own little systems. Security is another issue. Also intellectual property — should I really run my IP-heavy stuff on another company's server, or send it over the Internet? There are legal issues, social issues, political issues.

**What's missing in standards?** The Global Grid Forum is working on these issues with something like 50 working and research groups in seven areas [such as applications, architecture, data, security and performance], and basically all the areas are immature.

For example, how to grid-enable software applications. Today you have to write interfaces manually. These interfaces need to be standardized so you can plug two software modules together seamlessly and at all levels — application, architecture, data, security and scheduling and resource managemeot.

### NATIONAL LAMBDARAIL

**NLR (www.nlr.net)** is s consortium of research universities and companies working on advanced technologies in network architecture, end-to-end performance and scaling. It's also a testbed network based on optical Dense Wavelength Division Multiplexing (DWDM) that's capable of transmitting 40 simultaneous light wavelengths ("lambdas," or waves), with each wavelength able to transmit at 10Gbit/sec.

NLR is the first network to deploy transcontinental circuits based on Ethernet end to end. It's also deploying s routed IP network over the optical DWDM network. By next spring, NLR will connect research facilities in 27 U.S. cities.

**You speak of the grid and the future Internet as if they were one thing.** The current Internet is just information. The grid adds things like collaboration, computing and other things that make it three-dimensional. It's doing real business and development and productioo on top of that. With [today's] Interoet, you have information. But with the grid, you have access to the resources that use this information. Grids are getting more and more general-purpose. Eventually they will merge, and you have the next-generatioo Internet.

**Will it be based on the same standards as today?** Current protocols, like in Sonet, Ethernet and TCP/IP, were built more than 20 years ago, and they never anticipated the amount of data which they have to deal with today . . . for the "grand challenge" applications. That's why the National LambdaRail has been started, and its key focus is to overcome the limitations of TCP/IP and other protocols.

**What about the third grid wave, the one for consumers?** We are talking about gaming grids, where hundreds of gamers come together and use the grid for really heavy interactive and compute-intensive stuff.

Also health care. If you have a heart attack or stroke and you are within 15 minutes of a hospital, you get easy help. But in the countryside, the percentage of people dying from heart attacks is at least 50% higher than in the cities. Now, a grid reduces distances to zero, so the country doctor has immediate access to all these expensive machines, which have digital heartbeats, in the hospital. If that hospital is too busy, the health care grid broker selects another resource that is least loaded.

**How far off are these third-wave capabilities?** Five to 10 years. Five is aggressive; 10 is definitely yes. **50785**

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# The Password Is: Useless (Probably)

**A secure password is the first line of defense, but too often they're as easy to crack as your knuckles. By C.J. Kelly**

SECURITY MANAGER'S JOURNAL

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Why was this password audit a fluke rather than a regular security measure? The fact is that we have so many things on our task lists that sometimes the most obvious part of security is overlooked. We suffer from a lack of staff, lack of tools, lack of time, lack of security awareness and lack of security policy enforcement. And being new to the company, I made a fundamental error in assuming that the stated password policy, which had been signed off on by executives and posted on the company intranet, was actually being enforced by IT across our domain and those of our subsidiaries. In a way, my awareness of the importance of secure passwords made me blind to the problem: Since I care about my password being cracked, I chose a secure one, and so I didn't stop to test the password policy.

We're back to square one. Without a properly enforced password policy, who cares if the firewall is logging properly, the SQL Server password is blank or our patches are up to date? Passwords are the first line of defense.

In a Windows network, the password policy is set at the domain level, and in our environment, that's managed by Active Directory. Our current password policy includes these provisions:

- Ten passwords are remembered, which means you can't reuse a password until you've chosen your 11th.
- Passwords expire after a maximum of 45 days.
- The password must meet "complexity requirements": They can't contain all or part of the user's account name, they must be at least eight characters long, and the characters must be chosen from three of four categories — English uppercase characters, English lowercase characters, base-10 digits and nonalphabetic characters such as !, $ or #.

All this sounds good, but the policy isn't strict enough, and it allows for passwords like Password1 and Password2. Is anyone surprised that we found these types of passwords on the network?

> **An interesting question is what our new password policy will look like. One possibility I'm looking into is to use passphrases instead of passwords.**

When I got the list of users whose passwords had been easily cracked, I looked for key executives, domain administrators and other potentially risky log-ins. I found them all, including some highly visible executives with very stupid passwords. My first order of business was to e-mail one of the domain admins and ask him to choose a more secure password. Next, I sent the list to management and asked for permission to contact the vice president of IT at one of our subsidiaries in order to gain his support for instituting a stricter password policy.

## Password Hell

The next steps are to put together a stricter password policy, obtain buy-in from management, publish the new policy, change the technical password management policy to the stricter settings — and wait for the outcry from end users. Adopting a stricter policy sounds like a logical idea, but as we security professionals know, what makes perfect sense to us often comes up against all kinds of resistance.

An interesting question, though, is what our new password policy will look like. One of my security engineers is hellbent on implementing OTP (one-time passwords) via SecureID tokens. We already have a token authentication scheme for remote users logging in via VPN, but tokens aren't currently used internally. I keep telling him that this approach won't ease the password hell facing our internal end users. Many of them, needing multiple passwords to log onto myriad applications, just tape their passwords to their monitors. I expect that's what will happen with the tokens as well. Or worse, users will lose their tokens every other day. I suggested that we sponsor a single-sign-on project instead.

An interesting option is to use passphrases instead of passwords. Think about it: The longer the password, the harder it is to crack. A passphrase like "All I want for Christmas is my two front teeth!" is statistically more difficult to crack just by virtue of the number of characters, the addition of spaces, differing word lengths and placement of the words. As I looked into this issue, I came across a recently published series of articles [QuickLinks a5170, a5180, a5190] by Jesper M. Johansson, who is the security program manager in Microsoft's security business and technology unit. What a timely find!

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## SECURITY LOG

### Keeping Tabs on External Media

**San Ramon, Calif.-based SmartLine Inc. is rolling out Version 5.7 of DeviceLock, a tool that lets systems administrators control end-user access to PC devices and ports, including USB and FireWire ports and Wi-Fi and Bluetooth adapters. The new version adds an audit function that provides a record of port and device activity, such as uploads and downloads, by user and file name or URL, in the standard Windows Event log. It integrates into Windows Active Directory and includes a snap-in for the Microsoft Management Console. DeviceLock 5.7 will be available for download at *www.advancedforce.com* on Dec. 8. Pricing begins at $35 for a single license.**

### Fujitsu Focuses on Notebook Security

**Fujitsu Computer Systems Corp. is emphasizing security features in its new LifeBook S7000 notebook. Among the features offered are the AuthenTec biometric fingerprint sensor device; the Fujitsu Security Panel, which lets users select one of approximately 800,000 code combinations to lock the system; the embedded Trusted Platform Module, which employs a chip that allows users to store files or other data securely by encrypting them; and smart-card capabilities.**

### Securing Wi-Fi

**AirTight Networks Inc. announced a new release of SpectraGuard, its Wi-Fi firewall. The San Jose-based company said Version 2.0 protects against Wi-Fi security threats such as rogue access points, misconfigured access points, clients connecting to a neighbor's Wi-Fi network, and clients creating an unsecured Wi-Fi bridge by connecting to other clients on the network. Starter-kit pricing begins at $7,500 for the Policy Management Server software and two sensors.**

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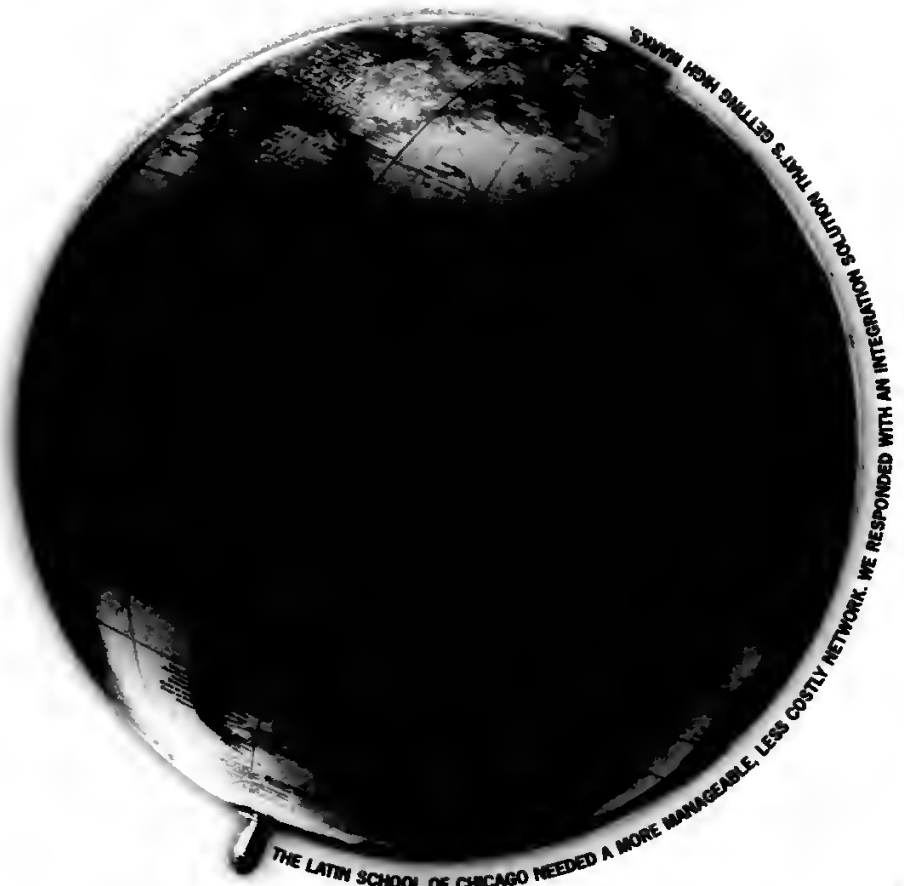
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## BRIEFS

### Sterling Rolls Out Services Platform

■ Sterling Commerce Inc. in Dublin, Ohio, announced its Multi-Enterprise Services Architecture, which is designed to allow companies to extend Web-services-based applications beyond the enterprise. Sterling will offer services for business integration, business intelligence and business process management and delivery. The company will provide management dashboards, portals and user interfaces to summarize information from multiple data sources. Pricing information was not available.

### Cisco Announces Switching Platform

■ Cisco Systems Inc. announced the ONS 15310 CS Sonet Multiservice Provisioning Platform, a new optical switching system for use on the edge of networks. It's designed to help users deploy services such as private-line and switched Ethernet services without having to redesign or disrupt an entire network. The IU (1.75 in. high) rack platform is interoperable with Cisco's ONS 5454 Sonet MSPP gear. Available in December, one version of the 15310 that connects to an OC-3 connection starts at $5,000.

### Compuware Bundle Covers Governance

■ Compuware Corp. this week announced Compuware IT Governance by Changepoint, a bundle of software products, including some resulting from Compuware's acquisition of Changepoint Corp. The package is designed to provide a comprehensive view of the performance of all IT investments, the Detroit-based company said. The Compuware software components are expected to begin shipping by early January, and the Changepoint components are scheduled to ship by Jan. 15. The Changepoint components will be priced on a per-user basis, ranging from $250 per user to $1,500 per user.

ROBERT L. MITCHELL

# 802.11n's Pregame Show

IN THE *Star Wars* movie parody *Spaceballs*, the character Dark Helmet (played by Rick Moranis) commands his crew to shift to "ridiculous speed" to pursue another spaceship. Ignoring warnings from his crew that the technology is unproven and untested, the pompous chief executive blunders onward toward disaster.

Similarly, attempts by vendors to jump ahead of the wireless LAN standards game with new high-speed adapters and access points under the 802.11n banner could deal heedless customers an equally unpleasant — and much less humorous — blow.

The IEEE has only just begun considering technical proposals for a new high-bandwidth WLAN standard known as 802.11n. Four complete proposals and 28 partial proposals were submitted for the specification, which will be backward-compatible with current 802.11b and g standards while pushing real-world data rates to at least 100Mbit/sec. and possibly as high as 500Mbit/sec.

There is no 802.11n standard today. As yet, there is no agreement even on which technical proposals should be included. Final ratification of a standard isn't expected before late 2006, and mature, business-class products probably won't appear before 2007. Yet the first "pre-n" products are already heading for store shelves.

Belkin Corp.'s $99.99 Pre-N Notebook Adapter and $149.99 Wireless Pre-N Broadband Router use one of the technologies proposed to IEEE Task Group N, but calling the products "pre-n" is stretching the truth. When run in pre-n mode, these are nonstandard products, with all of the risks that implies. And because prestandard 802.11n products use the public airwaves and operate in the same 2.4- and 5-GHz frequency bands as existing 802.11b and g products, they could potentially be disruptive not only to the buyer but also to users of any other WLAN equipment within the same range. Such products are also unlikely to be forward-compatible with real 802.11n products when they arrive and could interfere with the operation of future 802.11n devices.

Gartner analyst Ken Dulaney is disgusted. "It was bad for these guys to start doing pre-802.11n," he says, citing the potential for interoperability problems for both consumers and business users.

For its part, Belkin says its equipment is backward-compatible. Indeed, its Pre-N products are certified by the Wi-Fi Alliance — although only for 802.11b and g mode operation. However, that distinction will be lost on most buyers, who are likely to associate the Wi-Fi Alliance certification logo on the box with the Pre-N product name.

The alliance won't actually begin certifying 802.11n products until November 2006, and it has stated that it will revoke certification for any product claiming 802.11n features if it fails to interoperate with other Wi-Fi-certified products. The alliance doesn't like the idea of vendors using 802.11n terminology to market nonstandard products. Managing director Frank Hanzlik says the alliance is trying to discourage "terms that imply compliance with 802.11n."

But the alliance's policy falls short of banning the practice. That leaves other vendors free to co-opt the 802.11n name as they develop and market their own WLAN products that include proprietary high-speed operating modes, all the while slapping the reassuring Wi-Fi certification logo on the box.

This type of marketing sleight of hand isn't anything new in the wireless realm. Vendors have always overstated the actual throughput of WLAN devices. For example, the nominal data rate for 802.11g devices is marketed at "an incredible" 54Mbit/sec., but engineers will tell you that actual throughput efficiency is typically only half the published speed. Many vendors also offer proprietary "turbo" modes that are about twice as fast as 802.11g.

With a real-world throughput of at least 100Mbit/sec., the new 802.11n standard would be about four times as fast as 802.11g. That's a powerful incentive for manufacturers, which are trying to differentiate their products in an intensely competitive market. So, as they did with 802.11g, vendors are likely to push forward with early 802.11n designs.

Vendors are offering higher speeds not because business users are demanding the increased bandwidth but because of the need to differentiate — and because the industry hopes to fill those fatter wireless communication channels with multimedia content for consumers. Most businesses don't need it today, but they're going to get it anyway.

Network administrators have a hard enough time keeping industry-standard rogue access points off the corporate network. But some engineers and executives are going to see pseudo-802.11n WLAN products, glance at the Wi-Fi label, buy it and power up the unit's proprietary and untested 802.11n mode in the office.

Every organization has its share of Dark Helmets. Such ridiculous marketing gimmicks will only make it more difficult to keep them in check.

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Working-At-Home Walter

***Who can blame Working-At-Home Walter for feeling a bit smug as he tunes his radio to the morning traffic report? He's not stuck in that freeway mess caused by the overturned lobster truck. He hasn't even shaved, and may well not until dinner. Working-At-Home Walter has swapped his wingtips for fuzzy slippers, but still manages to stay highly productive—not to mention better fed than his in-office compatriots. As Working-At-Home Walter says, it's all a matter of having the right technology to make a home a castle of productivity.***

**Do you feel you are really as productive at home as you used to be in the office?**

Actually no. I'm more productive! It took me a while to realize that all those water cooler conversations, nosh breaks, meetings that always seem to run longer than they need to, and other office antics didn't help my productivity one iota. At home, I'm totally focused. I have more flexibility, too. If I have to stop work at 4:30 to start dinner—I'm a great cook you know—I'll go back to work at 7 to finish up.

**How has your boss reacted to your working at home so much?**

My boss and the rest of the brass believe that happy workers are productive workers. Mobile technology from Nokia has helped me balance my home and work life. I'm very highly motivated to be as productive here as I'd be in the office, maybe even more so, because working at home gives me that balance I need.

**About the Interviewer**

**Bill Laberis was editor in chief of *Computerworld* for ten years (1986-1996). He is president of Bill Laberis Associates, a custom publishing and content company (www.laberis.com). His columns, Webcasts, supplements and magazines are well-known and respected throughout the high-tech industry.**

**And the IT people, what do they think of your working remotely?**

My buddy Joe in IT says it doesn't matter to him and his crew where I work. Nokia helped the IT department apply best IT practices to all the mobile gear they support, so extending key applications to sofa jockeys like me has been no problem. Excuse me a second. Gotta take a call from one of my kids at soccer practice.

**So what's the secret?**

In a word, Nokia. Only it's no secret because the company is world renowned for helping guys like me commute less, connect with coworkers from the comfort of my patio lounge chair, and work in my pj's. My mom got me these, so no laughing, OK?

**What are the most important technologies for your work-at-home success?**

My laptop is *numero uno* with me, but only if I can have confidence that the connection I have back to corporate is secure, given the info I need. Mobile email is my killer application so it has got to be working 24/7.

**Why is security so important to you?**

Don't let the slippers and pajamas fool you. I've got an important major accounts job. I need access to business-critical information intended for very few eyes. That access has to be as secure as the gold at Fort Knox. So we use Nokia Secure Access System. I'm no computer whiz, but I'm told this system leverages something called SSL technology running on Nokia's IP Security Platforms. Look, the bottom line is this: Instead of worrying if my data is safe, I get anytime, anywhere access to email, the corporate intranet, management portals, and just about any data I need—instantly and in real time. It's way cool!

**What other mobile technologies work for you?**

I love my Nokia 6820. It gives me quick and reliable access to the data I need and the people I want to contact. It's got a great color screen for my tired eyes. The quality of the speakerphone for conference calling is outstanding. Depending on my mood and needs, I also use my smartphone based on the Nokia Series 60 software platform. It's unbeatable for voice and data connections, whether for email on-the-fly or just messing around on the Internet.

**You are in great shape. How do you stay away from the refrigerator during the day?**

Working at home takes some discipline. I ration myself two trips to the kitchen for snacks a day, just like a regular office break. And once in a while I ask my wife, "Honey, do I look fat?" Let's just say I married an honest woman.

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IT LEADERSHIP & MANAGEMENT

# MANAGEMENT

**Think Tank**
A good help desk can boost office productivity by 2%, a benchmarking firm says; and a book titled *The New CIO Leader* might help you crack the inner circle of the executive suite. **Page 42**

**Career Watch**
Too many top executives add too little value; the boom in security hires continues; economic indicators don't have to be boring; and security is where the jobs are. **Page 44**

**OPINION**
**Just Think About It**
While it's true that managers thrive on action, Paul Glen says the best ones will learn and grow by reflecting on this year before diving into the next one. **Page 46**

# Out of Sync

Global data synchronization can boost worldwide supply chain efficiency, but achieving it may be complicated, painful and costly.

**By Carol Sliwa**

JAMES O BRIEN

RADIO FREQUENCY identification may be grabbing headlines as the hot technology in the retail supply chain. But another mammoth initiative was gathering steam long before Wal-Mart Stores Inc. asked its suppliers to affix RFID tags to pallets and cases.

Wal-Mart and more than two dozen retailers, including The Home Depot Inc., Lowe's Companies Inc., Ace Hardware Corp. and grocers Albertsons Inc. and Wegmans Food Markets Inc., have been preaching the merits of data synchronization to help rid their supply chains of error-infested documents and lengthy product introductions. They've asked suppliers to submit standards-based data to a centralized global directory, which in January will be known as the GS1 Global Registry.

Having accurate, updated data fed into their master product files means

## GLOSSARY

**DATA SYNCHRONIZATION:** The process of aligning data between trading partners. Updates to data attributes, such as a change in price or the addition of a color, are automatically delivered to recipients who previously synchronized on published data.

**GLOBAL DATA SYNCHRONIZATION NETWORK (GDSN):** A global registry and network of interoperable data pools that enable the synchronizing of data between trading partners. The global network removes the need for retailers and suppliers to synchronize with each other on a one-to-one basis. Under the GDSN system, they need only to synchronize with a data pool that sends information to a global registry and is certified to interoperate with other data pools.

**GS1 REGISTRY:** The centralized directory of the Global Data Synchronization Network. Basic information about products and the companies that make and sell them is registered and stored in the GS1 Registry. "Pointers" are provided to the appropriate data pools, where more information about specific items or companies can be found. All data must be validated against standards established by EAN International and Uniform Code Council Inc. A unique Global Trade Item Number is used for each product and service; a Global Location Number uniquely identifies each company and physical location.

**DATA POOL:** An entity that provides data synchronization services, registry services and a single point of entry to the GDSN. Data pools must be certified according to EAN/UCC system standards. Data pools interoperate with the GS1 Global Registry and with one another. Approved data pools are CABASnet, Click Commerce Inc., Global Exchange Services, SINFOS (mbH, Sterling Commerce Inc., Transora Inc., UCCnet Inc. and WorldWide Retail Exchange LLC.

retailers won't have to waste time reconciling errors in purchase orders and invoices. And data accuracy is also a critical step in creating the foundation for RFID, when large volumes of information will be flowing fast and furiously through the supply chain.

"You have to have good data," says Kathryn Cullen, a technology specialist at Kurt Salmon Associates Inc., a retail and consumer products consultancy in Atlanta. "Otherwise, you're defeatiog the point of speeding up data."

But like RFID, data synchronization projects are rife with challenges for retailers and their suppliers. In a recent *Computerworld* survey of 25 project managers, about a third said they're having difficulty mustering the necessary internal resources for data synchronization products, in some cases because the near-term ROI is elusive.

Andrew White, an analyst at Gartner Inc., estimates that only 5% of retailers have launched item synchronization efforts, the first step in data synchronization. Some of the manufacturers that have worked to comply with the big retailers' directives are having difficulty finding other retailers ready to undertake a synchronization project with them, he adds. That makes it tough to recoup compliance costs and move on to the next phase, when the companies will share more extensive product and price attribute data that should bring a bigger payoff, White says.

At that point, slashing the time and hassle associated with introducing products and launching price promotions are just two of the benefits retailers and suppliers can expect, White says. In the longer term, data synchronization efforts should enable more collaborative planning, he adds.

### Dirty Data

But today, "mess" is a word that's often used to characterize the state of the data in the internal systems of retailers and suppliers. It's not uncommon to find the same product referred to in different ways in multiple files, obsolete item numbers lingering for years and product attributes, such as dimensions or the number of items in a pack, defined inconsistently from one company to the next.

For instance, Smart & Final Inc. found 47 different addresses for IBM and numerous ways to identify the vendor, and they were all in the same system, says CIO Zeke Duge. Is it CocaCola, Cocacola or Coca Cola — uppercase, lowercase, one word, two words? Smart & Final had them all.

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"We've been in business for 132 years, and there's a lot of dirt under this rug," Duge says.

So it's no surprise that a key first step on the road to data synchronization is getting one's own house in order and cleansing data for the master product file. "You just have to stop at some point in time and fix it," Duge says, "and that's what we did."

The Commerce, Calif.-based retailer spent two years and $2 million cleaning up its data, an effort driven in part by the purchase of a new logistics system. But Duge says Smart & Final doesn't like to issue mandates to its suppliers and has no plans to join the Global Data Synchronization Network (see sidebar below and glossary) at this time.

"I'll leave that to the guys with the Ph.D.s," he says. "It's a great idea, but it's going to be really hard to do. Most of us can't agree what the data is nor what it means."

Greg Lenard, director of inventory

*Continued* on *page 40*

## SHIFTING STANDARDS

**RETAILERS AND SUPPLIERS** could use a road map to trace the shifting landscape around data synchronization standards and standards bodies.

UCCnet Inc., a subsidiary of Lawrenceville, N.J.-based Uniform Code Council Inc. launched in 1999, established the first extensive central registry for data, and subscriptions to it were *de rigueur* for U.S.-based retailers and suppliers undertaking data-synchronization projects.

But cognizant that data synchronization needed to be a global effort, the UCC and Brussels-based EAN International forged the concept of a Global Data Synchronization Network based on a central global registry that connects to data pools around the world. That registry will be known as the GS1 Global Registry.

UCCnet, which has 32 retailer and about 3,900 supplier members, is one of eight data-pool service providers – including Transora Inc., Sterling Commerce Inc., the WorldWide Retail Exchange LLC and Global Exchange Services Inc. – that have been approved to connect to the GS1 Global Registry. Certification is in the works to ensure that the data pools can interoperate.

Retailers and suppliers need to select a data pool, which validates the data against standards and sends a set of basic information attributes to the GS1 Global Registry.

"There was a great deal of misinformation about the split of the GS1 and UCCnet, pricing policies, legitimate data pools, interoperability capabilities, etc.," says an e-business project leader at a consumer goods manufacturer, who asked not to be named. "This state of confusion and misinformation made it very difficult to develop a data synchronization strategy."

Michelle Lachance, an electronic commerce business analyst at Seneca Foods Corp. in Marion, N.Y., says it was hard to figure out "who needs to belong to what" and whether any particular service provider has "all it takes to get you compliant."

Howard Singer, a Millville, N.J.-based IT manager at Santa's Best, says some retailers are mandating that the company subscribe to their pools, but the Christmas decorations supplier has no intention of paying to subscribe to more than one.

Some retailers have elected to hold off until the picture clears. An IT strategic planner at a national retail chain who requested anonymity says his company won't be able to build a significant business case for data synchronization until the data standards include both pricing attributes and retailer-dependent attributes, which will enable the company to resolve invoice discrepancies that now cost it money. So the chain probably won't start its data synchronization project until late 2005 or early 2006, he says.

"Those two components make it worthwhile," he says. "But now the standards aren't there to support that."

– *Carol Silva*

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Greg Lenard, director of inventory

*Continued on page 40*

## Even if everyone knew about the problem, would anyone know the solution?

Data base logjams. Traffic overloads. Deployment nightmares. Indications that all is not well in Networkland. Web-based applications may be the lifeblood of business, but they've also become its Achille's Heel, as those applications struggle to coexist with a network that's too focused on connectivity and not nearly adaptable enough.

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*Continued from page 38*

control at Ace Hardware, says many retailers have been hesitant to take a pioneering role. But he says it's time for more retailers "to put skin in the game" and help define the standards for data synchronization.

Ace took its first stab at data syochronization about six years ago and later joined a group of hardlines retailers in the tedious task of establishing 151 standard attributes to describe its products. The Oak Brook, Ill.-based retailer currently synchronizes data with four suppliers and is queuing up another hundred.

"This is all new for us, both retailers and suppliers," Lenard says, "so it comes down to application of the standards in a uniform way."

It's also importaot to make sure the master file of product data is updated when additions or changes are made. Lenard expects that Ace will eventually need to update its database architecture to do that. "That's the next step," he says. "How much are you willing to spend on that? That's the ROI piece.

"Everyone is fully aware of what the future return is going to be," he adds. "But we're not seeing that return now."

## Supplier Snags

On the supply side, Binney & Smith Inc. received requests from seven retailers to syncbronize data. The Easton, Pa.-based consumer goods maker is currently synchronizing with Wal-Mart and Wegmans and working with Supervalu Inc. and Walgreen Co., according to Richard Siegfried, manager of the company's global data synchronization effort.

Prior to the project, Binney & Smith hadn't been using all the attributes its retail customers now want, and even with those it did use, it wanted to make sure every weight and measurement was correct. So the company marshaled a "dirty data team" to meticulously examine each of its 2,200 stock-keeping units, literally putting a ruler and scale to boxes of crayons and markers to make sure every item specification was accurate. The team then re-entered the information into its systems. The process took about 13 months, according to Siegfried.

He says most of the dirty data had resulted from numbers being transposed when the customer order and planning system was set up. In the past, the company manually entered product descriptinn information into each system, increasing the chance of error. Now Binney & Smith uses an internally developed Lotus Notes application to transfer information from its master file in batch mode to the systems that need it as well as to its Transora Inc. data pool (see glossary and diagram below).

Siegfried says the company is planning to buy a commercial ERP product that will communicate with the Transora data pool, which validates the data against standards before transferring it to the GS1 Global Registry.

Because more manufacturers than retailers have ERP systems and they're entering the information into only one system, their data quality tends to be in better shape, says Rob Garf, an analyst at AMR Researeh Inc. Yet they also encounter problems because the data hasn't necessarily been inputted accurately, he says. In addition, manufacturers face challenges maintaining the data and ensuring that it meets their retail customers' needs.

**"It's a great idea, but it's going to be really hard to do. Most of us can't agree what the data is nor what it means.**

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For example, the attribute standards that hardlines retailers such as Home Depot and Lowe's developed aren't always appropriate for building materials, says Mike Franklin, an IT manager at Albuquerque-based American Gypsum Co.

The weight of the drywall sheets that the company produces typically varies based on the location of the manufacturing plant, he says. But hardlines retailers had asked American Gypsum to supply weight information as one of the standard attributes. Fortunately, the American Hardware Manufacturers Association recently told Franklin that a gypsum guideline had been approved. "This guideline will hopefully make our implementation less painful," he says.

Franklin foresees the possibility that Home Depot may want some different attributes than Lowe's, and he says he wonders if his company should start storing every attribute it can think of "just in case somebody might want it."

"I'm sure we'll have to go through several phases where we add or modify attributes," he says.

American Gypsum also needs to determine if its Microsoft Corp. Solomon ERP system has enough user-definable fields to handle all the product attributes, Franklin adds.

So far, the return for the effort has been minimal. "Really, the only place we're going to get some noticeable ROI is our customers will have better visibility to the produets we carry," Franklin says. "We're happy to try to accommodate that." **50795**

### PHASES OF SYNCHRONIZATION

**ANDREW WHITE** an analyst at Gartner, says synchronization efforts in the retail supply chain will move forward in the following phases

**1 Item synchronization.** Suppliers register basic product information into a central registry that retailers can access.
**TIME FRAME:** 2002-2005

**2 Data synchronization.** Suppliers provide more extensiva regional and even retailer specific product attribute information, such as price terms and promotions, to be stored in data pools or repositories that will communicate with one another via industry standards-based messages.
**TIME FRAME:** 2005-2007

**3 Process and global data synchronization.** More extensive attribute information is used for collaborative planning and forecasting and business process interoperability
**TIME FRAME:** 2007 and beyond

### THE GLOBAL DATA SYNCHRONIZATION NETWORK

A manufacturer/supplier registers its product information with a data pool, which validates the data against standards and submits basic information to the GS1 Registry. A retailer subscriber makes a request for product information through its data pool to the GS1 Registry. A pointer directs the retailer to the data pool, where more extensive product attribute information is stored. The retailer's data pool and the supplier's data pool then synchronize their data

*Continued from page 38*

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DB2, like other IBM database engine products such as Informix® and Cloudscape,® is also middleware with an eye on your resources. All of them. An ITG study showed overall costs for Oracle Database are up to four times higher than DB2. A Solitaire study found that, on average, Oracle Database required 25% more time to manage than DB2. And the Transaction Processing Performance Council showed DB2 as the overall price/performance leader for TPC-C on Linux, UNIX and Windows. Ahead of both Oracle Database and Microsoft® SQL Server.

Then there's this. Oracle will drop the current level of support for Oracle Database 8i at the end of 2004. Meaning limited support, higher cost or a complete migration to current versions. Fortunately, IBM offers ongoing, around-the-clock service and support for DB2.

**Why not move up to middleware that makes sense? Through the end of the year, you can get IBM DB2 Universal Database or Informix by taking advantage of our extremely compelling trade-up promotion.**
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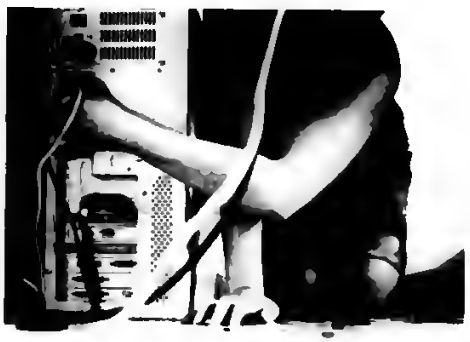

## THE Hidden Costs OF HELP DESK AVOIDANCE

**Employees spend an average of 30 minutes per week either trying to fix their own PC problems or working on a co-worker's PC problems,** according to research by Compass America Inc., a Chicago-based IT benchmarking firm.

This self-sufficiency and helpfulness may seem like a good thing, but from the company's point of view, it's not very cost-effective, says Scott Feuless, a senior consultant in Compass' Houston office. For starters, it may be a sign that end users have little confidence that the IT help desk can really help or that users don't know that the help desk could solve their problem. Plus, that 30 minutes of lost work productivity is hurting the company and could be reduced to an average of 10 minutes with a top-notch help desk, Feuless says.

Companies take a 3% productivity hit from users futzing with their PCs, and that could be cut to 1% with a first-class help desk, Feuless says, citing Compass' database of more than 7,000 benchmark studies.

So how can companies get a 2% productivity boost? Feuless recommends the following steps:

**Make the help desk a one-stop shop for PC fixes,** so calling it isn't viewed as a waste of time.

**Negotiate service-level agreements** to monitor the performance of the help desk.

**Standardize PC hardware and software** so the help desk can effectively come up with standard fixes. – *Mitch Betts*

## Best Bits

**The most useful parts of recent business and IT management books**

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Fortunately, sprinkled in various nooks and crannies of the book are some useful insights and techniques for becoming a trusted member of the executive elite. For example, the authors mention the role of credibility – not just delivering IT projects on time and on budget, but "delivering results that your enterprise leadership really cares about." Frankly, they say, it's the only success metric that matters. Plus, the authors provide advice on when and how to get involved in company politics.

If you're new to the CIO game or struggling to crack the inner circle, this book might be for you. – *Mitch Betts*

### The IT Economy

Does IT matter – in Europe? Yes, according to an IDC survey of 197 European business executives. When the survey directly probed the issue of whether executives think IT matters to their business success, 46% of respondents said it's "critically important." And 42% said their companies need to be more aggressive in their use of technology for competitive advantage, according to IDC analyst Frank Gens.

## Things to Ponder

**In a survey of 300 global organizations, 57% of respondents said they use instant messaging at work for personal reasons,** Meta Group Inc. reports. And 56% use IM at home for business purposes.

**At LexisNexis Group, an online research service in Miamisburg, Ohio, IT workers have a tradition of giving dead code a proper burial.** When computer programs are replaced, upgraded or unplugged, IT staffers read eulogies to the code, place a printout in a wooden coffin and bury it in a shallow grave with a headstone, the *Dayton Daily News* reports.

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*Send them to pitches@computerworld.com.*

## Top IT Management Concerns

| | |
|---|---|
| 1 | IT and business alignment |
| 2 | Retaining IT professionals |
| 3 | Security and privacy |
| 4 | IT strategic planning |
| 5 | Speed and agility |
| 6 | Government regulation |
| 7 | Complexity reduction |
| 8 | IT governance |
| (tie) | Information architecture |
| 10 | Business process re-engineering |

**(Arrows indicate movement from last year's survey.)**

Base: 160 senior IT leaders attending Symposium 2004, Chicago

SOURCE: SOCIETY FOR INFORMATION MANAGEMENT, SEPTEMBER 2004

## Buying Intentions

IDC researchers say that their index of business IT demand shows that spending expectations have edged up a bit in the past month. IDC analyst Carol Glasheen notes that's because fewer companies expect to decrease their IT spending over the next 12 months, which gave the average a little boost. But she says this isn't a real trend "until buyer intent remains steady for at least three months in a row."

The buyer intent index is based on monthly surveys of 400 to 500 U.S. CIOs and business executives who are asked about their IT spending expectations for the next 12 months. Results are weighted to be representative of the U.S. market. An index of 1,000 means zero growth. Caveat: Buying intentions don't always lead to real spending.

SOURCE: IDC'S FUTURESCAN FRAMINGHAM, MASS., NOVEMBER 2004

# ThinkTank

## BRAIN FOOD FOR IT EXECUTIVES.

## THE Hidden Costs OF HELP DESK AVOIDANCE

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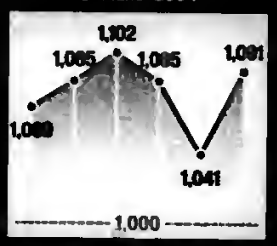
Index of Business IT Demand 2004



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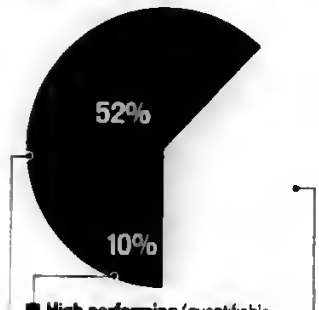
# Career Watch

## Toxic Toll

**A NEW STUDY indicates that 90% of the world's highest-paid and best-educated executives aren't helping their companies increase sales or profits, and 38% aren't providing any quantifiable benefit at all to their organizations.**

**The study focused on 3,104 executives deemed most critical to the success of some of the biggest companies in the U.S., Australia, China, France, Germany, Italy, Japan, the Netherlands, Sweden and the U.K.**

**Looking at criteria such as profit, revenue, process improvement, product improvement, customer satisfaction, teamwork, safety and social responsibility, here's how the top execs shook out:**




- **High performing** (quantifiable impact on increased sales/profits)
- **Average performing** (quantifiable impact on at least one of the criteria)
- **Nonperforming** (no quantifiable evidence of impact on their companies)

**Susan Lucia Annunzio, CEO of the Hudson Highland Center for High Performance, conducted the study. She found that high performers' bosses shield them from company interference, politics and bureaucracy so they can do their work. In contrast, nonperformers' bosses provide no protection from external interference, let them tread neck deep in distractions that have nothing to do with their jobs and often foster "toxic" practices such as hoarding information, embarrassing people with public criticism, micromanaging, shirking responsibility, taking credit for others' successes and pursuing personal agendas at the expense of the team.**

OTHER FINDINGS:

- **The more hours and fewer vacation/sick days executives logged at toxic workplaces, the worse their performance got.**
- **77% of respondents thought their work increased company revenue, compared with 10% whose work actually did.**
- **Only 17% are developing new products or services, while 40% are focused on increasing internal efficiencies.**

**The single biggest impediment to high performance, Annunzio says, is short-term thinking, which leads to overworking executives and cutting muscle along with fat.**

*– Kathleen Melymuka*

## Security Jobs Boom

There are 1.3 million information security professionals worldwide, a 14.5% increase over 2003, according to estimates by IDC, and that number is expected to increase to 2.1 million by 2008. In a survey of 5,371 full-time information security professionals in more than 80 countries, IDC and its co-sponsor, the International Information Systems Security Certification Consortium, also found the following:

- **Companies are reluctant to outsource security jobs because of concerns about a lack of control over the workforce and international laws regarding data loss.**
- **Regulations like the Sarbanes-Oxley Act, HIPAA and the Graham-Leach-Bliley Act are driving growth, as are new technology implementations and ever-evolving threats.**
- **More than 97% of respondents had moderate to very high expectations for career growth.**
- **Security professionals have experienced growth in job prospects, career advancement, base salaries and salary premiums for certification at faster rates than other areas of IT.**
- **Information security managers believe that continuing education and certification are important to the profession, with strong business acumen becoming an essential ingredient for professional success.**
- **More than 10% of respondents held executive management titles such as chief information security officer and chief security officer – positions that didn't exist 10 years ago.** 50705

## Tongue-in-Cheek Index

In *The Wall Street Journal*, Jared Sandberg offered this lighthearted list of new indexes to gauge the health of your workplace:

**PERK DEFICIT:** Reduction of workplace assets, from free food to office supplies.

**FUDGE-IT SURPLUS:** The depth of trouble a company is in, based on the number of times management insists it's healthy.

**DISPOSABLE PERSONAL NINCOMPOOPS:** Inventory of idiots on hand, based on everything from suggestion box entries to PowerPoint presentations.

**BLEEDING ECONOMIC INDICATOR:** Voluntary departures of key personnel.

**REALLY GROSS DOMESTIC PRODUCT:** Trash piling up in office garbage cans as a result of janitorial cutbacks.

**NO CONFIDENCE INDEX:** The rise and fall of company T-shirt and baseball cap production.

**OFFICE PARK AGRICULTURAL INDEX:** Ratio of costly annuals to cheaper perennials around the parking lot.

## IT Hiring Heating Up

**Monster Worldwide Inc.'s Monster Employment Index** counts its online job postings as an indicator of job availability. It showed a continuing four-month upward trend in the computer and mathematical occupations category, which captures the greatest number of IT-related positions.

Based on the number of online job postings in relation to total working population, the Monster index found the following locales to be leading in job availability during the month of October:

| | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | Florida |

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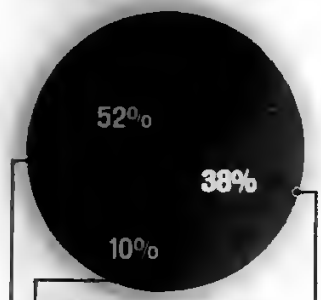


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where information lives
Fr: can't afford to
To: can't afford not to
PIZZA
PIZZA
PIZZA
PIZZA
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## QUICK HITS

### IT Risk Analysis

**How does your organization incorporate risk analysis into your current technology justification process?**

- Qualitative discussion of risk
- Risk tied directly to financial metrics
- No risk analysis
- Don't know

BASE: 269 TECHNOLOGY INVESTMENT DECISION MAKERS

**Does your current method adequately capture risk associated with technology investments?**

BASE: 238 TECHNOLOGY INVESTMENT DECISION MAKERS

**If you tie risk to financial metrics, how do you quantitatively identify and analyze risk?**

- Adjust cost and benefit estimates
- Perform what-if scenario analysis
- Adjust the discount rate
- Adjust the hurdle rate
- Don't know
- Other

BASE: 96 TECHNOLOGY INVESTMENT DECISION-MAKERS (MULTIPLE RESPONSES ALLOWED)

PAUL GLEN

# Just Think About IT

MANAGERS, AS A GROUP, tend to be action-oriented. We measure ourselves, our importance and our effectiveness in part by the level of activity around us. The louder the hum of machinery, the faster the shuffle of feet in the corridor and the larger the proportion of time we spend in meetings, the better things must be. Stuff is happening, and that's what we're supposed to do: make things happen.

So it's natural that at the end of the year, our attention often focuses on planning activities for the next year. We've arrived at the season of strategic planning sessions, budgets and project proposals. In the coming month or so, most of our organizations will set the stage for what we want to do in the next year.

PAUL GLEN is an IT management consultant in Los Angeles and the author of the award-winning book *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass Pfeiffer, 2003; www.leadinggeeks.com). He can be reached at info@e2-consulting.com.

Action is great, but before diving into planning more actions, it may be time to pay attention to the other end of the managerial spectrum: reflection. That's right; I'm suggesting that the end of the year is a great time for just a little bit of inaction. It's the perfect way to prepare for better action in the future.

Reflection seems to get a bad rap in managerial and leadership circles. There are a few reasons for this.

Many of the most competitive and aggressive businesspeople I know conflate reflection with self-doubt. For them, it's an activity for wimpy, tea-drinking, "girly men" (and women), not the work of serious leaders. They are out and about telling people what to do and occasionally listening to what others have to say. For them, leadership is primarily a public-facing function.

Even those who don't denigrate reflection seem to shy away from it. Thinking deeply can be uncomfortable. We might learn things that we'd rather not know about ourselves, our work or our organizations. It's also an activity without a guaranteed result. What's the deliverable? Insight seems too vague to justify the investment when there are immediate concerns waiting right outside the office door.

More broadly, as a culture, we seem more comfortable with cacophony than quiet. If you believe the personal ads on Match.com, everyone loves quiet, moonlit walks on the beach. But having lived on the beach in Los Angeles for seven years, I can assure you that at night, there's no one out there. All you see is flickering blue apartment windows bathed in the warm glow of televisiuns. We're much more engaged with the ever-expanding variety of media content and advertising designed to invade every second of our consciousness.

So, how should you focus your reflection to make the best use of the time? I'd suggest that at least a few key questions be on your agenda.

**What did I learn this year?** Too often, we look to what happened or didn't happen in the past year as a guide for what we should do next year. Experience offers the potential for growth, development and maturation, but to seize it requires that we pay attention not only to considering the events of the past year, but also to interpreting their meaning.

**What did my staff learn this year?** Believe it or not, the people who work for you are learning too. At times, it may not feel like it, but they are. But what they learned may not be the same things you did. What did they learn from you? What did they learn about you and about working for you? What did they learn from their successes and failures?

**Is what you've learned compatible?** This is the tough one, and it requires a fair amount of perspective and candor. Will this past year's learning bring you closer to your staffers, or will it alienate them from you?

The answers to these questions can help you guide not only the future actions of your group, but also how those actions are carried out.

So, where can busy people find the time to reflect? Drive home with the radio off. Rent a remote cabin. Take a really long bath. Sit in a coffee shop for an entire morniog without a BlackBerry, a cell phone or a laptop; take only a notepad and a pencil.

If you want to really distinguish yourself as a leader, invest in a little reflection. It can set the stage for focused and meaningful action. **50676**

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SOURCE FORRESTER RESEARCH INC. SEPTEMBER 2004

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Manage system engineers and computer application developers and other personnel to coordinate the design development, implementation and testing of high volume transactional telephonic and web based business applications and database systems for the commercial and government sectors containing highly confidential personal information government verifiable audit controls and interactive voice response. Manage professional staff to resolve problems, design and document useability testing and ensure system functionality and performance. Requires Bachelors or equivalent level degree in Computer Science, MIS, Statistics, Engineering or closely related field and four years experience in the leadership/management of computer applications development projects. Qualified applicants must presently be eligible for permanent employment in the United States (8:00 a.m. to 5:00 p.m.), 40 hours per week, overtime as needed without additional compensation. Position is with TALX Corporation in St. Louis, Missouri. Send resumes to Ms. Ellen Stanko, Director of Human Resources, TALX Corporation, 1850 Borman Court, St. Louis, Missouri 63146. EOE

Seeking qualified applicants for the following positions in Collierville TN: Senior Programmer Analyst: Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree or equivalent in computer science, MIS, engineering or related field plus 5 years of experience in systems/applications development. Experience with designing/coding GIS applications using MapQuest Geolocate and/or ESRI server GIS products also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Tim Ames, FedEx Corporate Services, 80 FedEx Parkway, 2nd Floor Horizontal, Collierville TN 38017. EOE M/F/D/V

Systems Analyst needed for Software Development, Services & BPO firm located in Burlington VT. Job duties include: Analyze, design, develop, test and implement web-based applications that link to databases for business clients located throughout the U.S. Extensively work with data warehousing applications. Engage in performance tuning and optimization of databases. Use: Oracle, MicroStrategy, Business Objects, Teradata, and COGNOS. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 2 yrs. exp. in the job duties described above or in any computer related occupation which must include skills listed above. 40hrs/wk, 8am-5pm, M-F, $65,000/yr. Send resumes to: Job No. 29899, P.O. Box 488, Montpelier, VT 05601-0488

Lead Software Security Test Engineer needed to analyze software at the binary level to include x86 assembly, computer architecture, reverse engineering, disassembly and decompilation, manage a team of highly skilled software security test engineers and interact with customers, as well as converse with engineers at the lowest level of technical detail. Candidates must have a master's degree in Software Engineering or Computer Science and 1 year experience. Send resumes to: Security Innovation, Inc. 4450 West Eau Gallie Blvd. Suite 240, Melbourne, FL 32934. Attn: Human Resources

Software Engineers (Irving Mastr Deg w/2yr exp or Bach Deg w/5 yrs exp) & Progmr Analysts (wrexp for IT Co. Exp must incl comb's of Java, Custom Portal implementation using Java/J2EE Technologies, Business process re-engineering, ATG architect/manager for custom J2EE based personalization websites/portals, EJB Servlets, JSP, C++, C, Net, C#, COM, DCOM, MQSeries, MQSI, Web methods, TIBCO, Seebeyond, EDI, Gentran, Harbinger, TLE, Oracle Clinical, SAS Programming, QA Validation, QATesting, Win runner, Loadrunner, Cardiff, Smalltalk, Reporting services, .Net, ASP.NET, VB.NET, C#, ADO.NET, Web Services, Remoting, Datawarehousing, Business Objects, Informatica, Datastage, Microstrategy, Actuate, Siebel, Informex, Sybase, Oracle, SQLServer, DB2, MS-Access, Unix, Windows 2000/XP/2003, Netscape Application Server, SAP Basis for SAP R/3 & MySAP Components, BEA Web Logic, Cognos ReportNet on IBM Websphere. We are also looking for Networking Consultants with exp in global office connectivity,branch connectivity using BGP routing protocol, design, develop, test & implement network solutions. Must have relevant exp. Reply w/ 2 copies of ref: HRD Hallmark, Global Technologies, Inc, 991 Forest Ave, Suite #4, Portland ME 04103. Email: resumes@hgtechinc.net

Programmer/Analyst (multiple positions) needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include: Analyze, design, develop and implement client server, web-based and ERP computer applications for clients located throughout the U.S. Use PL/SQL, XML and Oracle in Windows and Unix environment. Use J2EE technologies. Use Informatica and Cognos for data warehousing. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 1 yr. exp. in the job duties described above or in any computer related occupation which must include skills listed above. 40hrs/wk, 8:00am-5:00pm, Mon-Fri, $60,000/yr. Send resumes to: Job No. 29862, P.O. Box 488, Montpelier, VT 05601-0488

Solutions Developer. Order Mgmt Systems (OMS)-Jersey City, NJ sought by Global Logistics & Transp Co. to anlyze dsgn dvlp & implemt standard operating procs for OMS compatible with IT applications. Configure, test & tshoot proprietary systems. Spvse 2. Must have Master's Deg in Int'l Bus or IT or related Comp field & 2 yrs exp in job off'd or 2 yrs rel exp in mgmt or spv'd pos in Order Mgmt Sys or Global Qlty Mgmt Sys. Must be cert'd in Procurement & Logistics Mgmt & must have ability to work w/major global clients to create logistical solutions in CIEL. Send resumes to H.Shapiro, Exec Admin, Kuehne & Nagel, Inc., 10 Exchange Pl., 19Fl, Jersey City, NJ 07302.

**IT CAREER OPPORTUNITIES**

DELAWARE - Network Engineering Services Analyst Deliver telecommunications services related to internet/firewall and perimeter security for South American clients. Position requires a BS and relevant experience, a combination of experience and college level education may be accepted. The flexibility to travel and be on call may be necessary. Must be fluent in Spanish and/or Portuguese. Proof of legal authorization to work in the U.S. is required. Please forward your resume to: Computer Sciences Corp., Attn: J. La, 2100 E. Grand Ave., Mail Code A209, El Segundo, CA 90245

Medical Information Tech Analysts needed in Tampa, FL. Req. Bachelor's degree or equiv (as determined by properly evaluated credentials) in Biology, Pharm, or related & 5 yrs exp in job offered or in related occupation as a Computer Professional. Rel exp must include 3 yrs working in the Pharmaceutical industry with Medical Information Systems, analysis & design of business requirements. Duties: Design, develop, analyze & document business processes in a pharmaceutical environment; document pharmaceutical process & translate into end user system for coding; design business requirements & medical information systems; work closely with other pharmaceutical process teams to facilitate project progress & to ensure an integrated system solution; test pharmaceutical information system to compliance with medical/pharmaceutical client needs; maintain current insight to SAP policies, technology products & medical/pharmaceutical industry issues; enabling knowledge transfer to clients; complete internal projects & reports; perform IT support, programming & website development; travel to interact with clients at various locations for different short and long term projects; work with SAP; s/w pos avail. 40 hrs per wk, 8 AM - 5 PM, $76,000/yr. Send resume to Workforce Program Support, P.O. Box 10809, Tallahassee, FL 32302-0809. Ref Job Order #FL 2582476

BCCUSA Inc - South Portland, ME needs experienced System Administrators having a Bachelors Degree with minimum two years of experience in installation and maintenance of Red-Hat Enterprise Linux AS3, Windows 2000/2003 servers in high availability DEV/QA/Production environment. Patch management using Shavlik HFNetChkPro and System monitoring using DeepMetrix IPMonitor. Experience in IIS/Apache Web servers, J2EE application servers like JRun/Orion/JBoss and software build/deployment tool ANT is desired. Competitive salary and benefits. M-F, 40 hours/week. Please mail your resume to BCCUSA Inc., HR Dept., 650Main Street Ste 201, South Portland, ME-04106

Seeking qualified applicants for the following positions in Memphis, TN: Senior Programmer Analyst: Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* or equivalent in computer science, MIS, engineering or related field plus 5 years of experience in systems/applications development. Experience with J2EE, Oracle databases and airline scheduling systems also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to: Matt Coplas, FedEx Corporate Services, 2955 Republican Drive, 2nd Floor, Memphis, TN 38118. EOE M/F/D/V

BCCUSA Inc-South Portland, ME needs experienced Programmer Analysts having a Bachelors Degree with minimum two years of experience in Documentum 4i/5i, DFC 4.0/5.0, GxPharma 4.3, WDK4.0/5.0, WCM, eContent Server 4i/5i, Java, JSP, JRun, JDBC, Servlets, XML, RMI, JMS, EJB, ASP, JavaScript, VBScript, WebLogic and Oracle. Competitive salary and benefits. M-F, 40 hours/week. Please mail your resume to BCCUSA Inc., HR Dept., 650Main Street Ste 201, South Portland, ME-04106

**Omnisoft, Inc.**

Software Engineers Research, design develop, test, & recommend software requirements for E-commerce database applications. Use Oracle, Java, Perl, XML, Solaris, Web logic, C++ & current Web Technologies in Windows Unix, and Linux environments. Need Bachelor's in Comp Science or related and 2 yrs of exp.

Programmer Analysts Design & develop Enterprise Resource Planning, Customer Relationship Management, ASP Datawarehouse applications. Use current web technologies, web services, Stored procedures and SQL. Work in Unix Environment and Unix Schell Scripting. Need 2 yrs of exp.

Send resume to: HR Manager, Omnisoft, Inc., 2215 W Russell Ave, Sioux Falls, SD 57104 or via e-mail at hr@omnisoftinc.net

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Project Director in Mesa, AZ to direct & id manageable onsite/offshore elearning & applications development projects. Must have MS deg. or foreign equiv. in Eng., Comp Sc. or rel field & 3 yrs proj. mng. exper., incl proj. design, implementation, planning, reqts. analysis & execution. 2 yrs exper in software proj. mng. for comp or web-based training & proj. mgmt. exper. Bach. deg., or foreign equiv in Eng., Comp Sc. or rel field & 5 yrs progressive proj. mng. exper., incl proj. design, implementation planning, reqts. analysis & execution, plus 2 yrs. exper software proj. mng. for comp or web-based training & 1 yr proj. mgmt. exper. can subst. for MS deg. & required exper. Send resume to Hilary Gosselin, HR Manager, Lionbridge Technologies, Inc., 492 Old Connecticut Path, Framingham, MA 01701

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Maintain Dental mgmt. practice s/w to encompass appointment, billing, accounting & record keeping. Maintain Web & d/base appl /sys. by using XML, ASP.NET, VB.NET, Visual Studio, Crystal Reports & IIS. Req. Bachelor in Electrical Eng., or Comp. Sci. 40hrs/wk. Job/Interview Site: Anaheim, CA. Send resume to Dr Tarlochan Singh DDS, APC @ P.O Box 18914, Anaheim, CA 92817

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ObjectWin seeks System Analyst, DBA or other IT professionals. Applicants must have BS/MS or equivalent. Skills in ASP.Net, B2B, VB, Java, HTML, VB.Net, XSL, CSS, MS CMS, SSL & MS preferred. Good wage. Travel required for some jobs. Apply at sharanda@objectwin.com. EOE. No calls.

Synova has multiple openings for Project/Software Engineers, System Analysts, DBA. Our clients include Fortune 500. Candidates must have MS or BS with experience. We offer attractive wage with full benefits. Travel maybe required. Email resume to sale@synovainc.com. EOE. No calls.

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Software Design and Development Administrator for Medical Day Spa to analyze, design and implement solutions for Internet related activities, such as web design and development, e-commerce, software application design, etc. using MS dotNet technologies (especially WinForms, ASP.NET, ADO.NET and MS SQL). Supervise and coordinate workers remotely. BA in Bus. Adm or MIS +2 yrs. exp in yrs offered/working experience in Object Oriented programming req. Forward resumes to: Jayne Eshelman, Cara Mia Care Center, 19841 E. Parker Sq. Dr., Parker, CO 80134

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Programmer/Analyst needed for Software Development, Services & BPO firm located in Burlington, VT. Job duties include: Analyze, design develop, code test and implement computer applications/systems for clients located throughout the U.S. Use Visual Basic, Oracle, Clarify, TIBCO, PL/SQL, and SQL Server. Applicant must have B.S. degree in Computer Science, Business, Math or Engineering. Applicant must also have 2 yrs. exp. in the job duties described above or in any computer related occupation which must include skills listed above. 40hrs/wk. 8am-5pm, M-F. $65,000/yr. Send resumes to Job No. 29933, P.O. Box 488, Montpelier, VT 05601-0488

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Sr. Software Developers/Engineers with BS in CS, IS, Math or Engg and 3 yrs progressive development exp in current MS operating system environments using Windows. One position requires 1 year web-based exp with Net, C#, Java, XML, SQL, VB and Windows 95/98/NT 2000. One position requires 1 year exp with Java, J2EE, Corba, and SQL. Resumes only to B. Ashmore, Advanced Solutions, Inc., 1510 Klondike Road, Suite 400, Conyers, GA 30094

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**Programmer Analyst**

Plan, develop, test, document computer programs, consult with user to identify operating procedures for workflow, financial & medical applications, determine feasibility cost/time required, convert project specs, prepare flow charts using Visio, Rational Rose, enter program codes/commands, detect syntax/logic errors written in Delphi, Java & RDBMS (MS Access, SQL Server 2000); use Visual SourceSafe, CVS. Req. BS Comp Sci, Applied Math, related or equiv & 2 yrs exp. Resume to HR, SDA Software, 11301 Coolwood Rd, Louisville, KY 40223

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IT specialists wanted by Diligent LLC to develop applications using Oracle, SQL, VB, Java, C/C++, SAP, AS/400, Developer 2000, Windows NT, etc. Minimum is BS/MS with IT experience. Travel maybe required. Competitive wage with benefits. Apply at jobs@diligent.net. EOE.

Immediate openings for both entry & experienced Systems Analysts, Software Engineers, DBA & IT Consultants. Job duties & tools vary depending on position. BS/MS, 0-3 yrs exp req'd, accept foreign edu. equiv. Travel maybe required. Send résumé & salary requirements to: Saras America, Inc. hr@SarasAmerica.com. EOE.

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S/W Engineers - Dvlp & support S/W to process & analyze magnetocardiographic (MCG) signals: digital signal processing, ODBC prgmg, data acquisition, communication w/ SQUID electronics, real time data display, GUI & debugging. Use Visual C++, SQL, multithreading prgmg, Visual Studio C++, RDBMS, MFC, DAQ, Win SDK. Comp Sci/Engg & exp req'd. Send resume to CardioMag Imaging, Inc. 4th Fl, 450 Duane Ave, Schenectady, NY 12304. EOE

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Radio Frequency Engineers needed. MS or equiv and rel work exp. Duties include: Analyze, design implement, optimize & enhance wireless telecomm networks. Link budgets analysis & system dimensioning for coverage & capacity. Oversee & guide the work of Assoc & Design Enggs. Position may require travel. 3 yrs of Radio Frequency exp with at least 2 yrs Nortel equip exp. Send res, ref & sal req to IT Wizards Inc, 181 State St, Augusta, ME, USA 04330

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SYSTEMS SOFTWARE ENGINEER to provide on-site consultancy to analyze, design, develop and implement systems software in web architecture using Java, JSP, WebLogic, Oracle, DB2 and WebSphere for J2EE applications in objected oriented and Windows environment. Require Master in Computer Science/Applications and three years experience in the job offered or any experience providing skills in the described job duties. 40% travel to client sites within the U.S. required. Competitive salary and benefits. 40-hr week, M-F. Mail resume to: Human Resource Manager, 4C Solutions, Inc., 1201 7th Street, East Moline, IL 61244

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Computer Professionals (Multiple Openings) Must have bachelors or equivalent degree and/or experience in computer science, engineering or related field and experience in some of the following skills: C/C++, Java, J2EE, WSAD, WBI (Crossworlds), VB, Oracle, SQL Server, Sybase, PeopleSoft, Siebel, SAP, EDI, EAI, Oracle Financials, Main Frame environment, Cobol, DB2, Facets, AS/400 on Windows and /or Unix Platforms. Must be able to travel or relocate nationwide. Attractive compensation package. Please Email to resumes@esharpedge.com OR mail to HR Department, Sharpedge Solutions Inc, 2200 S Main Street, Ste # 205, Lombard, IL 60148

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Software Engineer to analyze, design, develop and test client server enterprise applications using J2EE, Java, C++, Servlets, JSP, XML, HTML, CORBA, Oracle, Websphere on Windows and UNIX operating systems, generate code from client requirements using Visio 2000 and UML, evaluate and enhance performance of enterprise application using JProbe Suite and automate testing process using WinRunner. Require BS or foreign equivalent in CS/Computer Engg with 3 yrs of exp in IT. Competitive salary, F/T. Resumes to CyberObject, 3050 Business Park Drive, Suite A-1, Norcross, GA30071

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C & G Pharmacy LLC (Houston, TX) is seeking a Computer Support Specialist using Radio Frequency Sensing and Ultrasonic Detecting Technologies. 6 mon exp. Mail resume to 11618 Aldine Westfield, Houston, TX 77093 or 281-442-1432(F) Attn: Sunny Chin.

Seismic Micro-Technology, Inc. seeks a Geosciences Software Quality Assurance Tester to analyze and test seismic software. M.S. 1 yrs exp. in using geosciences software. Send resume to 8584 Katy Fwy, #400, Houston, TX 77024 Attn: Manager of HR, or 713-464-6440(F).

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Amlor Technology is currently looking for a Senior Analyst for our Chandler, AZ office. The primary function of this position is to perform project management and web architecture design utilizing tools such as Java, JSP, ASP, Websphere, HTML, JavaScript, Dreamweaver, Oracle etc; analyze document reqs and recommend software solutions; analyze appl architecture, design appls by creating prototype solutions and study feasibility, create software development plans, implement strategies to improve business processes. Provide comprehensive support for product lifecycle business processes, platform, and integration reqs utilizing various PLM tools including Agile & SCMnet. Require a Bachelor's degree or foreign equivalent in CS/Business/Engineering and 2 yrs exp in web technology. In lieu of a Bachelors, 3 yrs of academic studies in one of stated fields plus 1 extra yr of work exp in web technology will be accepted. Competitive salary frt. Send resumes to HR, Amlor Technology, 1900 South Price Road, Chandler, AZ 85248. Refer Job Id AKT1104

Internet Development Analyst. Responsible for planning, developing and deploying eBusiness applications and technologies in support of Roche's business activities. Specifically: Developing new web applications, as well as extensions, modifications and interfaces to existing eBusiness applications; Providing technical expertise and analytical support to customers wishing to make use of eBusiness technologies. Performing process analysis, design of application architectures, code writing and unit testing. Leading large development projects requiring in-depth knowledge of complex development languages, functional and interface design. Communicating and coordinating with end users, contractors, system administrators and other development or maintenance personnel. Prior experience must include database migration and development of multiple ecommerce web applications. The position requires an BS in Electronics or Computer Engineering and 5 years in the job offered or 5 years of program/system analysis. Submit resume and social security number to: Kathy Sanders, Roche Diagnostics, 9115 Hague Road, Indianapolis, IN 46250. No phone calls please.

Health Systems Analyst/Programmer I to develop and support advanced healthcare software applications in a highly distributed environment, provide real-time connectivity to proprietary clinical repositories, serve as technical lead on Internet development, and provide development for the electronic messaging system. Requires Master degree in Computer Science at least 24 months experience in programming. Must have advanced background experience in using the Perl programming language to provide connectivity to MySQL databases and Common Gateway Interface applications. Must have strong experience with generating PNG (Portable Network Graphics) for real-time display of clinical data. Must have advanced experience with Javascript, HTML, DOM, CSS and XML. Needs to be willing to provide 24x7 support for mission-critical applications. Should be familiar with the clinical environment. Medical research experience is also required. Please send resume to: Dano Gruse, Vanderbilt University, Eskind Biomedical Library 4th floor, 2209 Garland Ave, Nashville TN 37232-8340.

Software Professionals in programming/analysis, systems analysis, QA engineering & testing, software engineering, systems administration, and related fields at all levels, including project lead and manager with relevant bachelor's degree/equivalent. Also seeking Business Development Managers, Business Developers, Business Analysts, Market Research Analysts, Sales Engineers, Technical Resource Management professionals (several levels, Associates/Sr Executives/Manager)/Senior level positions require graduate degree/equivalent. May be relocated for short and long term assignments throughout the U.S.A. Zensar Technologies, Inc., One North LaSalle, Suite 3650, Chicago, IL 60602. Send resume & cover letter detailing position sought & relevant experience to balu@use.zensar.com. Please quote reference CW/Zensar in all your mails.

Sr B/z Analyst for d/base bk/up & recovery. Solve applin issues of Sybase SQL Server 2000, MS SQL Cluster Server Win 2K NT and DB Artisan 7.3. D/zn XML docs w/ XML schemas, dev XML transin modules w/ XSLT. D/zn & dev XML schema, web services to receive info from external sys & validate, parse/load info into d/base. Admin B/z Obj & Crystal Enterprise servers over multiple locns. Documentum 5x admin and dev exp. Support applns on cold fusion servers to create/display reports for web site. Perf B/z Obj Enterprise 6 Installs/mgmt. Appl Foundation, Dashboard and VBA. Asst in trainyg of records mngmt pracs. Supp devmt & implemtn of spt research initiatives. Prov consult & tech supp. Budgets & schedule for 24/7 records & doc control org. BS in Eng + 2 yr exp to job duties. Apply Resources - Code KK., 1000 Abernathy Road, # 1010, Atlanta, GA 30328 w/ proof of perm Wrk authzn.

PROG ANALYST JAVA J2EE

Using dsgn patterns, component-oriented agile methodologies, service-oriented architecture & domain knowledge: architect validations in web client component using server-side Java J2EE. Dvlp module for reflecting electronic document exchange for web & desktop users. BS degree in Comp Sci or Electrical or Electronics Engrng + 2 yrs exp in job offered or as a Software Engnr Java J2EE. Exp must incl Java J2EE architecture dsgn patterns, EJB & JMS, XML parsing technologies, C/C++ & concurrency/threading expertise. High mobility preferred. 40 hrs/wk, OT as reqd, 8am - 5pm, $98,730/yr. Submit resume to Manager, Butler County CareerLink, Pullman Commerce Center, 112 Hollywood Drive, Suite 101, Butler, PA 16001-5699. Refer to Job Order No. 476674.

Medical Device Software Engineer sought by Medical device dvlpr to work at Ann Arbor, MI facility. Will research, dsgn & dvlp complex comp s/ware systms in conjunction w/hardware product dvlpmt for medical applics by applying principles & techniques of comp sci, engg & mathematical analysis. Will be responsible for maintenance of existing system s/ware incl debugging, testing & implmtng necessary improvements. Req Master's in Comp Sci/Engg or Electrical Engg & 6 yrs of s/ware dvlpmt exp incl 3 yrs exp in medical device arena. Interested candidates send resume to Leslie Wild, HR Generalist, Terumo Heart, Inc., 6200 Jackson Rd., Ann Arbor, MI 48105.

Business Program Applications Analyst. Analyze, define & design complex business processes for application to electronic data processing systems, both at the local unit & the enterprise levels. Lead complex projects & provide direction to others in performing: Systems analysis, applications programming, database administration, business process analysis, & systems specialization. Requires B.S. in Business Administration, Commerce or Information Systems. Also need 2 yrs performing enterprise resource planning with software such as J.D. Edwards programs. 8:00 -5:00 M-F. Must have proof of legal authority to work indefinitely in the U.S. Submit resumes to: S. Ardekian, HR Manager, BorgWarner Inc., 3800 Automation Avenue, Auburn Hills, MI 48326.

Unica Corp, a leading provider of Enterprise Marketing Management Solutions, is looking for a qualified Software Engineer to work with enterprise applications and n-tier architectures to develop Java-based, next-generation enterprise marketing applications. Must have a Bachelor's degree in CS, Engineering or similar field and relevant advanced study, research or experience in web applications development. Requires JavaScript, Java, JDBC, XSLT, Servlets and Java Security Frameworks, UI, database and middleware, DB2 and Oracle, Windows and UNIX (Solaris) operating systems. Forward resumes to Job code: IE, Human Resources, Unica Corp., Reservoir Place, North, 170 Tracer Lane, Waltham, MA 02451, or e-mail careers@unica.com.

Project Managers to lead/manage teams to study, analyze, customize and develop Portal infranet billing appls. using C, Pro-C, Oracle procedures, triggers, Unix shell scrpts etc; lead teams to develop custom GUI tools in VB using portal COM objects, mentor in development of Oracle triggers, packages, procedures, view and pro-C for data retrieval/data migration, evaluate, test, train team members. Require MS (or foreign equiv) in CS/Computer Engg & 1 yr exp in portal infranet billing. F/T Competitive salary. Travel involved. Resumes to HR, Intercall, Inc., 1211 O.G. Skinner Drive, West Point, GA31833. Please refer Job tCI1104.

Programmer Analysts Needed. Seeking qual candidates possessing BS/equiv & rel work exp. Duties include: Plan, develop, & analyze applications. Code, test & debug programs. Work with at least 2 of the following: Tuxedo, Corba, Visual Basic, Java, and J2EE. Fwd res., ref & sal. req. to UBICS Inc., Attn: HR, 333 Technology Dr., Ste 210, Canonsburg, PA 15317.

Programmer Analysts to analyze, develop appls using C, C++, Java, XML, VBScript, VB, HTML, SQL, etc; use Mercury Win Runner & Load Runner to provide automated functional/ regression testing, performance load and stress testing for web based appls; interact with clients and users for requirements gathering, analysis, planning & implementation, modify and debug existing software appls. Require BS or foreign equiv in CS/Engg (any branch) with 2 yrs of exp in IT or an MS or foreign equiv in one of the above fields. F/T competitive salary. Travel involved. Resumes to HR, Semafor Technologies, Inc., 3300, Holcomb Bridge Road, Ste212, Norcross, GA30092.

System Engineer VI, Temple Terrace, FL - Design, develop, implement and integrate information systems including determination of hardware, software and network environment required to support operations; serve as team leader in the architecture and development of web services and portal applications; resource planning and estimates; design and develop distributed systems using C, C++, TCP/IP sockets COM/DCOM and MFC and architect and manage middleware and web portal applications using, J2EE Java, and WebLogic on UNIX, Linux and Windows platforms; provide detailed design and unit test creations, utilize J2EE and WebLogic based infrastructure development to support shared development environment. Requires Bachelors degree in Engineering or Computer Science and either 5 yrs. experience in the job offered or 5 yrs. experience in designing and developing distributed systems using C, C++, TCP/IP sockets, COM/DCOM and MFC to include 1 year architecting web portal applications using J2EE and WebLogic. Salary $100,000/yr. 40 hrs/wk, 8 AM to 5 PM, Mon-Fri. Send resume to Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302-0869, refer to Job Order #FL-2583701

Software Engineer Temple Terrace, FL - Module lead responsible for the design, architecture, development and deployment of a system application that provides telephone number selections and address validations using CEM middleware with server side C++, C, Informix and UNIX, design, develop and implement OO (Object Oriented) and multi-tiered client-server applications using C++, C, SQL and Java in a telecom domain, perform requirements gathering; provide post production application support; allocate tasks to team members and coordinate status meetings; analyze issues and provide feedback to resolve client issues, responsible for identifying risk factors that affect project deliverable dates, analyze and respond to training related issues for application users. Requires Masters degree in Engineering or Computer Science and either four years experience in the job offered or four years experience in object oriented and multi-tiered client-server application design development and implementation using C++, C, SQL and Java in a telecom domain. Salary $78,000/yr. 40 hrs/wk, 8 AM to 5 PM, Mon-Fri. Send resume to Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302-0869, refer to Job Order #FL-2583086

Computer Scientist. Responsible for performing basic research in intelligent agent systems & applying the results to challenging real-world problems. Responsibilities will include managing maintenance & extension of existing BDI (Belief Desire Intention) agent software & leading research efforts in the area of robustness for agent systems. Requires PhD in computer science with doctoral research & dissertation emphasis in BDI agent systems plus five years experience in the application of BDI agent systems to real-world problems. Requires publication record in BDI systems. Background must include theoretical foundations of BDI agent systems, programming in Prolog, Python, Java, and Lisp; software engineering project leadership experience. This position is located in Menlo Park, CA. Please apply indicating job# 2263, via our website @ www.sri.com or mailing address at 333 Ravenswood Ave, Menlo Park, CA 94025 Attn: Employment Dept. EOE/AA

Computer Scientist. Responsible for R&D of hardware & software formal verification framework. Duties include design & implementation of formal specification language, new automated verification algorithms, overall system infrastructure; perform research in formal methods area; write research papers & technical reports. This position requires Ph.D. in CS with doctoral dissertation emphasis in software engineering & formal methods for analysis & verification of software & hardware systems. Research background to include design, implementation, use of model checkers, static analyzers, compilers, software verification, implementation & design skills including object technology; programming skills including C++, Scheme, Emacs-Lisp, & Java; working knowledge of automatic theorem proving & formal semantics of programming languages. This position is located in Menlo Park, CA. Please apply, indicating job# 2251, via our website @ www.sri.com or mailing address at 333 Ravenswood Ave, Menlo Park, CA 94025. Attn: Employment Dept. EOE/AA

**.NET or Java/J2EE Application Developers**

ThoughtWorks is a global, rapidly-growing application development firm looking for .NET and Java/J2EE developers for its Chicago, Nashville, New York, and San Francisco offices. We build highly complex, high business value applications for Global-1000 clients. .NET/Java /J2EE developers must have a minimum of a Master of Science degree in Computer Sci, Computer Engineering, Computer Info Systems, Elec Engineering or a related field. Must have at least 6 mos of exp incl analysis, design, coding & implementation of large scale, complex OO applications. Must be open to possible extensive travel

For .NET devs, delivery exp on an actual C#/.NET project w/ integration w/3rd party applications & non-Microsoft technologies is essential & development exp using Microsoft languages & tools, such as COM+, ASP.NET, ADO.NET, Enterprise Services, etc. J2EE devs must have delivery exp as a programmer, analyst or engineer on a large-scale J2EE application. Exp must incl OO design & design patterns. Pls E-mail res to: hrwk@thoughtworks.com.

Abbott Laboratories in Illinois seeks qualified Systems Analysts, Database Administrators, Software Engineers, Software Specialists and Applications Programmers with experience in one or more of the following technologies: SAP, ABAP, BASIS, RDBMS, SUN UNIX, Solaris, Seibel, Oracle, AS/400, PL/SQL, Visual Basic, C/C++, Windows UNIX, SAS, HTML, XML, Java, JSP, JavaScript, Documentum, LAN, Lotus Notes. Respond by mail to Abbott Laboratories, Dept. 323, Bldg. AP6D2, 100 Abbott Park Road, Abbott Park IL 60064-32537. An EOE. Refer to ad code: IT-KE

Abbott Laboratories in Illinois seeks qualified Systems Analysts, Database Administrators, Software Engineers, Software Specialists and Applications Programmers with experience in one or more of the following technologies: SAP, ABAP, BASIS, RDBMS, SUN UNIX, Solaris, Seibel, Oracle, AS/400, PL/SQL, Visual Basic, C/C++, Windows, UNIX, SAS, HTML, XML, Java, JSP, JavaScript, Documentum, LAN, Lotus Notes. Respond by mail to Abbott Laboratories, Dept. 323, Bldg. AP6D2, 100 Abbott Park Road, Abbott Park IL 60064-32537. An EOE. Refer to ad code: IT-KE

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## Collaboration

data center manager at Lord, Abbett & Co., a Jersey City, N.J.-based mutual funds firm. Joseph added that he thinks the long history of conflict between Microsoft and Sun will make it difficult for them to build interoperable products.

Stan Johnson, a Portland-based LAN services manager for Multnomah County in Oregon, said he would like to have a single management console that he could use to populate or oversee end-user accounts in Microsoft's Active Directory and on Sun systems.

But Johnson remains skeptical about the long-term potential of the Sun-Microsoft alliance. "They're moving in the right direction, but I still think, right now, they have their own turf that they're interested in," he said. "So I'm not sure where it's going to pan out."

To be coovinced that the alliance will produce results, Johnson said, he needs to see "a real product in hand that shows the collaboration," rather than just hear the vendors talk about their joint work.

### Looking for Meaning

Several analysts said they heard nothing new in the first progress report that the two companies issued since their April announcement of a broad cooperation agreement, which also included a payment of nearly $2 billion from Microsoft to Sun to settle outstanding litigation between them [QuickLink 45957].

Tom Bittman, an analyst at Gartner Inc., said the update was issued with "a defensive rationale" to help the vendors prove that they're collaborating. Bittman said be has no doubts that they're working together against their primary competitor, IBM. But be added that he isn't sure it matters anymore "because Sun's influence isn't nearly as strong as it used to be."

"In terms of real progress, you'd have to search hard to find anything. I didn't really hear anything meaningful at all," said Rob Enderle, an analyst at Enderle Group in San Jose. He said he thinks the two companies may never have intended to cooperate much beyond their initial agreement, which gave Sun a cash infusion and allowed Microsoft to free itself from antitrust and patent lawsuits.

Hank Vigil, vice president of consumer strategy and partnerships at Microsoft, objected to the vendors' collaboration efforts being characterized as modest in scope. "If you think about the history between Sun and Microsoft, it was quite a contentious history, where our ability to even talk to each other was not at all clear," he said. "I think that the eight months have proven not only are we crawling well, but we're learning how to walk, and someday we expect to run together."

Similarly, Greg Papadopoulos, chief technology officer at Sun, described the change in the nature of his company's relationship with Microsoft as "a 180-degree U-turn."

The vendors have held 15 executive meetings in the past five months, including talks between Papadopoulos and Bill Gates, Microsoft's chairman and chief software architect, and between Microsoft CEO Steve Ballmer and Sun CEO Scott McNealy.

Two-dozen engineers are also meeting face to face on a monthly basis to discuss technical issues, according to Andrew Layman, director of distributed systems and interoperability at Microsoft.

Papadopoulos pointed out that he and Gates have also met jointly with an unspecified number of major customers. The users helped the companies get their priorities straight, said Papadopoulos, adding that they listed IT security, identity management, Java and better interoperability through Web services as issues that are important to them.

Several users agreed that it would be helpful for Sun and Microsoft to work on those technologies. Roger Wilding, a senior technical engineer at a global transportation company that he asked not be identified, said it has been hard to get Java to work well on Windows-based systems. As a result, his company needs the interoperability that Web services technology promises.

Chuck Howard, a business development manager at Texas Farm Bureao Insurance Cos. in Waco, said he would like to see additional integration of Microsoft's .Net technology and Java 2 Enterprise Edition. **51218**

*Reporter Patrick Thibodeau contributed to this story.*

**PROGRESS REPORT FROM MICROSOFT AND SUN**

### Interoperability

- Sun has achieved VeriTest certification for its Java System Directory Server Enterprise Edition, Java System Access Manager and Java System Identity Manager on Windows Server.
- Sun is working to validate the Access Manager and Identity Manager tools in identity management scenarios using Microsoft's Active Directory to store end-user credentials.
- The companies have also worked to ensure that Windows XP Service Pack 2 is interoperable with the latest versions of Sun's Java Runtime Environment and StarOffice suite.

### Windows on Sun

- Sun's Opteron-based servers and workstations are now certified as "Designed for Windows."
- The workstations use Opteron's enhanced virus protection feature for Windows XP SP2.

### Customer support

- Sun is working to establish a competency center in Redmond, Wash., for users to test applications involving Microsoft and Sun technologies.

### Web services

- Microsoft and Sun have co-authored, with other companies, four Web services specifications: WS-Addressing, WS-Eventing, WS-Metadata Exchange and WS-Management.

### Java

- Microsoft is pointing customers to Sun's Java Virtual Machine software.

### Storage

- The companies are working to ensure that Sun's StorEdge 6920 disk arrays support Microsoft's Virtual Disk Service and Volume Copy Shadow Service software.
- The StorEdge 6920 received the "Designed for Windows" logo.

## CICS Transaction Server Adds Web Services Support

### Also offers C++ support as Cobol, Java alternative

**BY HEATHER HAVENSTEIN**

IBM last week rolled out a new version of its CICS Transaction Server software that will let users extend mainframe data to service-oriented architectures.

CICS Transaction Server for z/OS v3.1 will allow CICS to function as both a provider and consumer of Web services, said Phil Hanson, IBM CICS product manager.

CICS, which celebrated its 35th anniversary this year, provides high-volume transactioo processing for mainframes. The upgrade will let Cobol, C and C++ automatically convert between XML and their language structures, IBM said.

The new version, which adds support for C++ and enhanced support for the Secure Sockets Layer protocol, also lets developers use WebSphere Studio Enterprise Developer as a tool for application transformation and integration, Hansoo said. IBM also released CICS Transaction Gateway v6, a tool for connecting CICS applications to its WebSphere application server.

Steve Ware, CICS system programmer at the University of Florida in Gainesville, said that although his organization has no immediate plans to upgrade to the latest version of the transaction server, he is interested in finding ways to expose CICS applications as Web services. Ware's department runs a data center that supports several educational eotities in the state.

"A lot of the financial applications are being moved into PeopleSoft, [and] PeopleSoft is primarily an XML messaging set of applications," he said. "Web services for CICS and XML support make that type of integration fairly seamless and easy."

The Florida data center curreotly uses a CICS socket-interface feature available in IBM's z/OS Communications Server to Web-enable applications.

### Deriving Benefits

Dale Vecchio, an analyst at Gartner Inc., said that while support for Web services is a plus for IBM's large installed base, the real benefit from the new server comes from its support of C++.

"The challenge for CICS is its dependence on the procedural paradigm of Cobol for development," he said. "You can use Java in CICS, but it's a bit of a forced fit. Now they are trying to offer an alternative to Cobol and Java."

The transaction gateway is scheduled to ship next month, and the transactioo server will be available in March. **51217**

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# Numbers Game

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They're right. I botched the numbers. That 51% comes from 2003. This year, 54% of U.S. IT projects fell into the challenged category.

Yeah, the numbers were wrong. But at least they weren't ridiculous — or worse. And that brings us around to a new Gartner forecast (see story, page 1).

According to analyst Donna Scott, speaking at Gartner's annual data center conference in Las Vegas, up to half of all IT operational jobs could disappear over the next 20 years because of improved data center automation.

Got that? Gartner's telling us what we can expect for data center staffing circa 2024. That'll come in very handy for the next quarterly IT budget adjustment, won't it?

It's easy to make fun of a prediction like this. We know the numbers aren't meaningful, because no one can gin up useful numbers two decades in advance. Just looking a few years out, predictions get shaky.

For example, only three years ago, Gartner Chairman Michael Fleisher predicted that half of the household-name IT vendors wouldn't exist in three years. That pronouncement made for some big headlines in 2001, just as Hewlett-Packard was swallowing Compaq. But it's not a prediction you'll see Gartner bragging about these days.

(Gartner still stands by Fleisher's statement — sort of. Vendor consolidation will just take longer and may not be as extreme as predicted, the company now says. Translation: "We botched the numbers, but we still think some consolidation *will* happen eventually.")

But a 20-years-out prediction is also troubling. It could be right — but only if nothing in IT really changes. That's not likely. Major disruptions and surprising shifts could hit us in both the technology and business worlds.

In 20 years, IT operations could conceivably be running on a lights-out basis, almost completely automated. Operations staff cut by 50%? It might be 80% or 95%.

Or automation might wipe out systems administrators and operators, but operations staff head count might stay level, thanks to a vastly expanded training and support function.

Or the IT operations staff might have to increase because IT has taken on functions we'd never imagine as IT work today. (Who thought in 1984 that IT would serve as a retail store, switchboard and mailroom?)

Or in 20 years, IT operations might be completely outsourced, making head count estimates meaningless. Or it might be invisible in the budget because departments will have taken over their own IT operations to run them more effectively than centralized IT — not necessarily more *efficiently*, but more *effectively*.

We simply don't know what IT operations will look like in 20 years. And the only way Gartner can forecast IT operations staffing 20 years out is by encouraging a simple-minded "the future will look just like the past" world view.

That's a dangerous way of thinking. We're always at risk when we slip into it — even without the help of analysts who should know better.

Gartner folks, we understand what you're trying to tell us: Improved data center automation *will* reduce IT operations staffing needs eventually.

But please, don't dress that up as a 20-year prediction, or botching the numbers will be the least of your mistakes. 51174

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

## SHARK TANK

### Details, Details

This database server is suddenly getting slammed with queries – and a support pilot fish soon gets calls complaining that the ERP system won't respond. Restarting it doesn't help, but fish finally finds the culprit: a runaway calculation in the production scheduler. "The engineer needed some training on how to pay attention to detail," fish sighs. "Instead of scheduling one work order to make 100,000 parts, the system was generating 100,000 work orders and all the requirements to make one part each."

### Um, No

Power goes out often in this company's area, so IT has a backup generator and even a small UPS on each PC. When a frantic programmer calls during an outage insisting that the mainframe is down, support pilot fish is pretty sure it's not. He checks. It's fine. "I walked down to the programmer's cube, and it was obvious the battery on her UPS gave out," says fish. "I tried to explain that, but she looked at me like I had three heads and said, 'Everyone knows the power comes from the cabling connected by the mainframe.' "

### It All Adds Up

Owner of this local office-products company is discussing how to bill customers when techs go out on service jobs. "The boss is really tight with a penny," on-scene pilot fish says, "so when one tech suggested we bill 40 cents per mile, he replied, 'Studies show that to come out even, you have to bill at least 47 cents per mile. Otherwise, we'll be losing money.' The tech said, 'Well, maybe we need to talk about why you only pay me 35 cents per mile for using my own vehicle.' "

### Thanks, Boss

Rushing between meetings at his company's U.K. office, IT manager tells new hire to set up a color printer that just arrived. "The newbie dutifully begins to connect all the cables, when there is an almighty bang and billowing white smoke," reports a pilot fish watching. "An hour later, the manager sticks his head around the door and says, 'Oh, and be careful when you plug it in – it's from our U.S. office.' "

### Some Surprise

Boss returns from a trip complaining that the airline broke his laptop. Sure enough, the screen is shattered – and the boss admits he found it in that condition when he picked it up from baggage claim. "He said this probably happens all the time," grumbles a pilot fish there. "We had to send an e-mail to the whole company, explaining the danger of checking your laptop as luggage. We got quite a few snickers about that e-mail."

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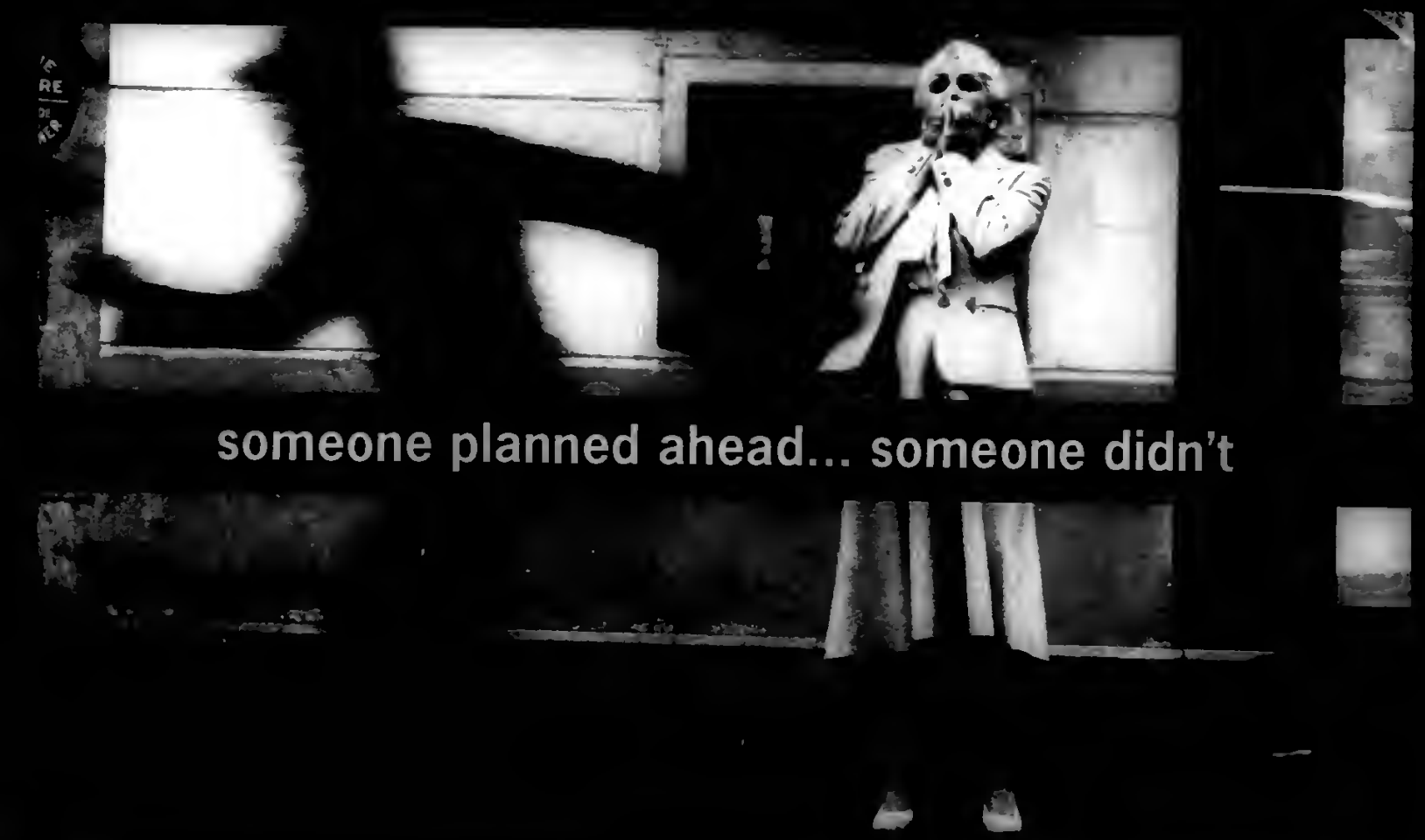

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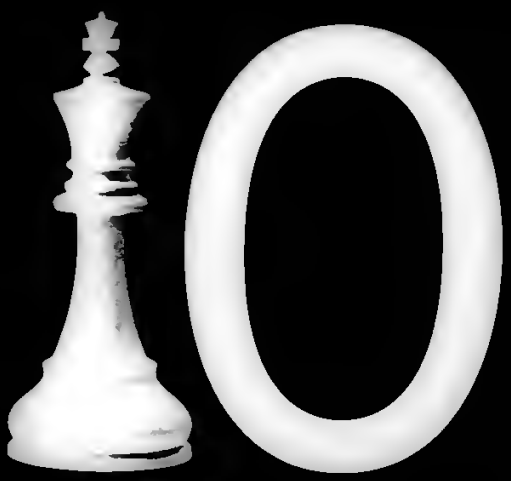

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